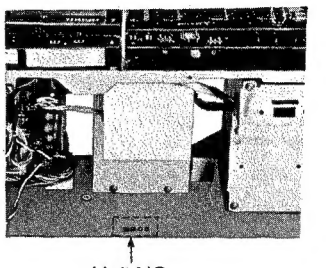
Service Manual

Radio

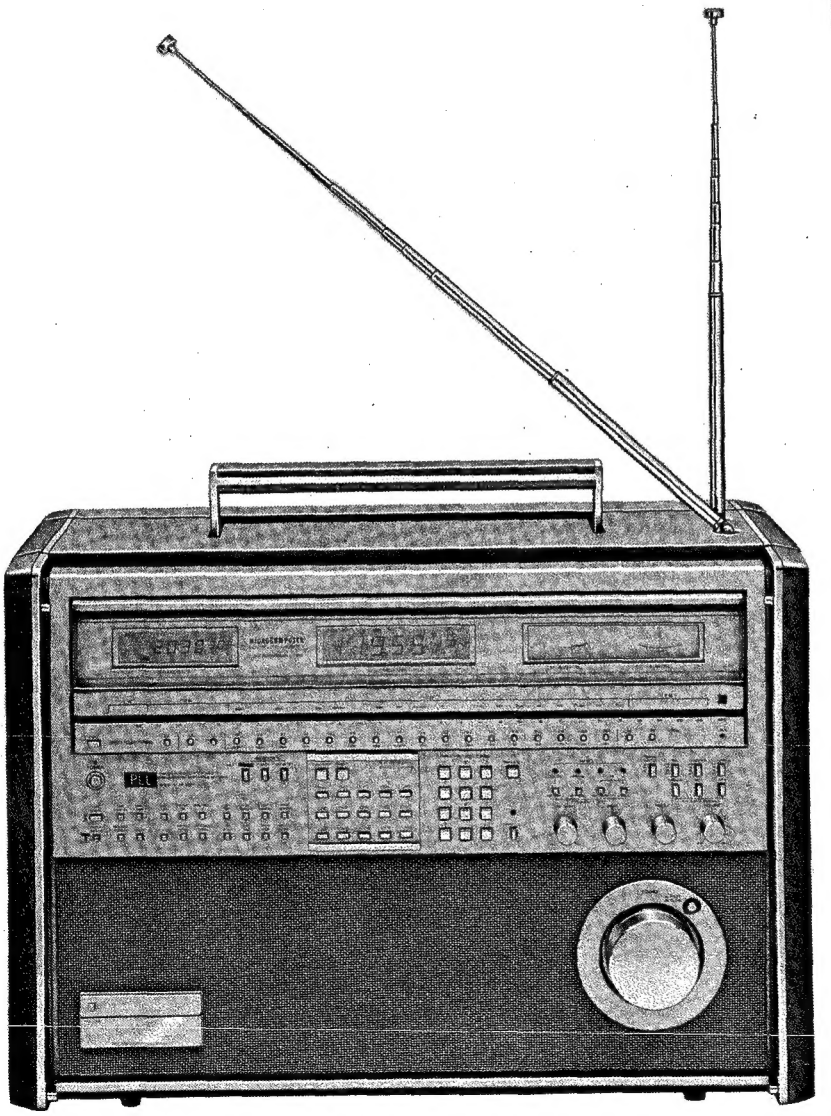
RF-9000

FM/LW/MW/SW World-wide Receiver
With Phase-Locked Loop Synthesizer

Main Change
*Change of circuit board.
How to Distinguish the model between RF-9000 and RF-9000 supplement-1.
*Production incorporating this change from unit NO. 171.
(Circuit Board of 11 UP and 12 UP has been changed from unit NO. 121.)



Unit NO.



National Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka, Japan

A1

Index

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A 5=.....
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1. FEATURES

[Radio Section]

- PLL (Phase-Locked-Loop) synthesizer FM/LW/MW/SW world-wide receiver.
- Direct-access tuning
  This function allows a broadcast to be received immediately simply by depressing the key.
- 15-station preset tuning
- Direct touch tuning by 22 touch keys
- 3-step AM bandwidth selector
- LSB, USB and CW operation
- AM frequency step selector
- Meter for FM center tuning, signal strength and battery check
- Separate bass and treble controls
- RF gain control
- Automatic noise limiter (ANL)
- Loudness switch
- Tweeter on/off switch
- Tuning speed selector (FAST/SLOW)
- 30-LED frequency indication

[Clock section]

- 7-day programmable timer
  The programming function makes it possible to set any desired frequency (FM, LW, MW or SW) to be received at any desired time.
- LCD quartz clock for month, date, day of the week indication
- Battery back-up for clock and memory
- Dual Time Display
- 12/24 HR. Display
- Time Signal

2. SPECIFICATIONS

LW/MW/SW (1.6110~2.9009 MHz)

Frequency Range:	LW 150.0~420.0 kHz (2000~714.3 m) MW 520.0~1610.9 kHz (576.9~186.2 m) SW 1.6110~2.9009 MHz (186.2~103.4 m)	
Type:	Single Superheterodyne with Phase-Locked-Loop Synthesizer	
IF:	455 kHz	
Sensitivity:	S/N 6 dB LW 1 μV MW 1 μV SW 1 μV	(Modulation 400 Hz, 30%, for 50 mW)
Selectivity:	WIDE	±2.4 kHz (−6 dB) ±5 kHz (−60 dB)
	MED.	±1.6 kHz (−6 dB) ±3.2 kHz (−60 dB)
	NARROW	±1.2 kHz (−6 dB) ±2.3 kHz (−60 dB)
Image Interference Ratio:	LW 120 dB (at 280 kHz) MW 80 dB (at 1000 kHz) SW 60 dB (at 2.3 MHz)	

SW (2.9010~30.0000 MHz)

Frequency Range:	2.9010~30.000MHz (103.4~10 m)
Type:	Double Superheterodyne with Phase-Locked-Loop Synthesizer
IF:	1st IF 46.125 MHz 2nd IF 455 kHz
Sensitivity:	SW 0.5~1 μV (S/N 6 dB) SSB/CW 0.2 μV (S/N 6 dB) (Modulation 400 Hz, 30%, for 50 mW)

Selectivity:	WIDE	±2.4 kHz (−6 dB) ±5 kHz (−60 dB)	
	MED.	±1.6 kHz (−6 dB) ±3.2 kHz (−60 dB)	
	NARROW	±1.2 kHz (−6 dB) ±2.3 kHz (−60 dB)	
Image Interference Ratio:		1st 100 dB	2nd 70 dB

FM

Frequency Range:	87.5~108 MHz
Type:	Single Superheterodyne with Phase-Locked-Loop Synthesizer
IF:	10.7 MHz
Sensitivity:	1.5 μV/75Ω (−3 dB, Limit. Sens.) 2 μV/75Ω (S/N 26 dB)
Two-Signal Selectivity:	70 dB (±400 kHz)
Image Interference Ratio:	60 dB (at 98 MHz)

Frequency Display

Display Type:	LCD (Liquid Crystal Display)
Precision:	Direct Readout to 100 Hz for SSB/CW/AM Direct Readout to 10 kHz for FM
Number of Figures:	6 digits
Frequency Stability:	Within 100 Hz during any 60 minutes after warm-up time

SSB/CW/AM
Direktanzeige bis 10 kHz für UKW

Zahlen: 6 Stellen

Frequenzstabilität: Innerhalb von 100 Hz während beliebiger 60 Minuten nach Erwärmung

Abstimmung

Frequenzstufen:

	Schnell	Langsam
SSB/CW	500 Hz	100 Hz
AM	100 Hz/500 Hz	100 Hz
	1 kHz/5 kHz	1 kHz
UKW	50 kHz	10 kHz

Abstimmgeschwindigkeitsverhältnis: Schnell:langsam=5:1

Festsenderspeicher

Anzahl der Festsender: 15

Uhr/Zeitschaltuhr/Kalender

Typ: Quarzuhr mit Flüssigkristallanzeige/ Auf 7 Tage programmierbare Zeitschaltuhr

Funktionen: Gegenwärtige Uhrzeit (Stunde, Minute, Sekunde)
Kalender (Monat, Datum, Tag)
Doppelzeit
Zeitzeichen
12/24-Stunden-Einstellung
Schlafzeit
Gleichstrom-Zeitschaltuhr-Ausgangsregelung
6. Empfangsautomatik
① Wiederholter wöchentlicher Betrieb, täglich
② Wiederholter wöchentlicher Betrieb, einmal pro Woche
③ Wiederholter wöchentlicher Betrieb, an 6 Tagen
④ Wiederholter wöchentlicher Betrieb, zweimal pro Woche
⑤ Wiederholter wöchentlicher Betrieb, an 5 Tagen
⑥ Einmaliger Betrieb, nur an einem Wochentag
Von den obigen 6 Programmtypen können bis zu 4 im Speicher gespeichert werden.

Ganggenauigkeit: Monatliche Abweichung ±15 Sekunden (16°C Temperatur 50% Feuchtigkeit)

Allgemeine Daten

Bestückung: 41 integrierte Schaltkreise
174 Transistoren
21 Feldeffekttransistoren

Ausgangsleistung: Gleichstrom: max. 10 W
Netzstrom: max. Ausgangsleistung, Modulation 400 Hz

Lautsprecher: Zweiweg-Lautsprechersystem
18×12 cm, Ovaltyp (4 Ohm)
6,5 cm (4 Ohm)

Stromversorgung: Netzstrom: 100~110/115~127/ 200~220/230~250 V, 50/60 Hz
Gleichstrom: 18 V (12×UM-1, "D")
3 V (2×UM-3, "AA") . . .
Reservestromversorgung für Speicher und Uhr
Gleichstromeingang: 12~18 V

Leistungsaufnahme: 35 W

Buchsen: Ohrhörerausgang (3,5∅)
Kopfhörerausgang (6∅)
Aufnahmeausgang (3,5∅, 8 Kiloohm)
Aufnahmeausgang (DIN, 80 Kiloohm)
Reserveeingang (3,5∅, 570 Kiloohm)
Reserveeingang (DIN, 570 Kiloohm)
MPX-Ausgang (3,5∅, 5 Kiloohm)
Außenlautsprecherausgang (3,5∅, 4~8 Ohm)
Außenlautsprecherausgang (DIN, 4~8 Ohm)
Netzstromeingang
Gleichstromeingang
Gleichstrom-Zeitschaltuhrausgang

Antennen: UKW; Teleskopantenne, 100 cm
Außenantenne (Schnellanschluß, 75 Ohm)
Außenantenne (DIN-Anschluß, 300 Ohm)
LW; Ferritkernantenne, 12∅×200 mm
MW/KW (1,6110~2,9009 MHz); Ferritkernantenne, 12∅×200 mm
KW (2,9010~30,0000 MHz); Teleskopantenne, 150 cm
LW/MW/KW; Außenantenne (Schnellanschluß, 75 Ohm)
Außenantenne (DIN-Anschluß, 75 Ohm)

Abmessungen: 520×362×206 mm
(B×H×T) (20-1/2×14-1/4×8-1/8")

Gewicht: 20,3 kg (44 lb. 14,1 oz)

Änderungen der technischen Daten jeder zeit vorbehalten.

Tuning

		Fast	Slow
Frequency Step:	SSB/CW	500 Hz	100 Hz
	AM 100/500 Hz	500 Hz	100 Hz
	1/5 kHz	5 kHz	1 kHz
	FM	50 kHz	10 kHz

Tuning Speed Ratio: Fast:Slow=5:1

Preset Memory

Number of Preset: 15-Station Preset

Clock/Timer/Calendar

Type: LCD Quartz Clock/7-day Programmable Timer

Function:
Real Time (Hour, Minute, Second)
Calendar (Month, Date, Day)
Dual Time
Time Signal
12/24 Hour Setting
Sleep
DC Timer out Control
6 Automatic Reception Mode
① Repeated weekly operation for daily
② Repeated weekly operation for once a week
③ Repeated weekly operation for every day but one
④ Repeated weekly operation for twice a week
⑤ Repeated weekly operation for every day but two
⑥ Single-time operation for one day of the week only
of the above 6 types of programs, up to 4 can be stored in memory.

Precision: Monthly Difference ±15 seconds (16°C temperature, 50% humidity)

General Specifications

Semi-Conductors:
IC 41
Transistor 174
FET 21

Output Power: 7 W (60%, MOD. 400 Hz)
10 W (AC, MPO)

Speaker: 2 way Speaker System
18×12 cm Oval Type (4Ω)
6.5 cm (4Ω)

Power Source: AC 100~110/115~127/200~220/230~250 V, 50/60 Hz
DC 18 V (12×UM-1, "D")
3 V (2×UM-3, "AA") . . . Back-up for Memory & Clock
DC in 12~18 V

Power consumption: 35 W

Jacks:
Earphone out (3.5∅)
Headphone out (6∅)
Rec. out (3.5∅, 8 kΩ)
Rec. out (DIN, 80 kΩ)
AUX in (3.5∅, 570 kΩ)
AUX in (DIN, 570 kΩ)
MPX out (3.5∅, 5 kΩ)
External Speaker out (3.5∅, 4~8Ω)
External Speaker out (DIN, 4~8Ω)
AC in
DC in
DC Timer out

Antenna:
FM Whip Antenna 100 cm
Ext. Ant. (one-touch, 75Ω)
Ext. Ant. (DIN, 300Ω)
LW Ferrite Core Antenna 12∅×200 mm
MW/SW (1.6110~2.9009 MHz)
Ferrite Core Antenna 12∅×200 mm
SW (2.9010~30.0000 MHz)
Whip Antenna 150 cm
LW/MW/SW
External Antenna (one-touch, 75Ω)
External Antenna (DIN, 75Ω)

Dimensions: (W×H×D) 520×362×206 mm (20-1/2"×14-1/4"×8-1/8")

Weight: 20.3 kg (44 lb. 14.1 oz) without batteries

Specifications subject to change without notice.

1. MERKMALE

[Radio-Teil]

- UKW/LW/MW/KW-Phasengegenkopplungsempfänger mit Frequenzsynthese für weltweiten Empfang.
- Direktzugangsabstimmung.
  Diese Funktion ermöglicht den sofortigen Empfang eines Senders, indem einfach die entsprechende Taste niedergedrückt wird.
- Vorabstimmung von bis zu 15 Sendern.
- Direktberührungsabstimmung über 22 Berührungstasten.
- AM-Bandbreiten-Wahlschalter mit 3 Stellungen.
- USB-, OSB- und ungedämpfter Wellenbetrieb.
- AM-Frequenzstufen-Wahlschalter.
- Anzeigeinstrument für UKW-Mittenabstimmung, Feldstärke und Batterieprüfung.
- Separate Baß- und Höhenregler.
- HF-Verstärkungsregler.
- Automatische Störkrachbegrenzung (ANL).
- Schalter für gehörrichtige Lautstärke.
- Ein-Aus-Schalter für Hochtöner.
- Abstimmgeschwindigkeits-Wahlschalter (Pangsam/schnell).
- Frequenzanzeige mit 30 Leuchtdioden.

[Uhr-Teil]

- Auf 7 Tage programmierbare Zeitschaltuhr.
  Die Programmierfunktion ermöglicht die Einstellung jeder gewünschten Frequenz (UKW, LW, MW oder KW) auf Empfang zu einer beliebigen Zeit.
- Quarzuhr mit Flüssigkristallanzeige für Monats-, Monatstag- und Wochentaganzeige.
  Die Uhr ist mit Mikrocomputerkreisen bestückt, so daß ein zuverlässiger Betrieb gewährleistet ist.
- Batterie-Reservestromversorgung für Uhr und Speicher.
- Doppelzeitanzeigetaste
- 12/24-Stundenanzeige-Wahltaste
- Zeitzeichen

2. TECHNISCHE DATEN

LW/MW/KW (1,6110~2,9009 MHz)

Frequenzbereiche:	LW: 150,0~420,0 kHz (2000~714,3 m) MW: 520,0~1610,9 kHz (576,9~186,2 m) KW: 1,6110~2,9009 MHz (186,2~103,4 m)	
Typ:	Einzelsuperhet mit Phasengegenkopplung und Frequenzsynthese	
ZF:	455 kHz	
Empfindlichkeit:	Rauschab- stand 6 dB LW: 1 μV MW: 1 μV KW: 1 μV	(Modulation 400 Hz, 30%, füt 50 mW)
Trennschärfe:	Breitband:	±2,4 kHz (−6 dB) ±5 kHz (−60 dB)
	Mittelband:	±1,6 kHz (−6 dB) ±3,2 kHz (−60 dB)
	Schmalband:	±1,2 kHz (−6 dB) ±2,3 kHz (−60 dB)
Spiegelselektion:	LW: 120 dB (bei 280 kHz) MW: 80 dB (bei 1000 kHz) KW: 60 dB (bei 2,3 MHz)	

KW (2,9010~30,0000 MHz)

Frequenzbereich:	2,9010~30,0000 MHz (103,4~10 m)	
Typ:	Doppelsuperhet mit Phasengegenkopplung und Frequenzsynthese	
ZF:	1. ZF: 46,125 MHz 2. ZF: 455 kHz	
Empfindlichkeit:	KW 0,5~1 μV (Rauschabstand 6 dB) SSB/CW 0,2 μV (Rauschabstand 6 dB) (Modulation 400 Hz, 30%, für 50 mW)	
Trennschärfe:	Breitband:	±2,4 kHz (−6 dB) ±5 kHz (−60 dB)
	Mittelband:	±1,6 kHz (−6 dB) ±3,2 kHz (−60 dB)
	Schmalband:	±1,2 kHz (−6 dB) ±2,3 kHz (−60 dB)
Spiegelselektion:	1. 100 dB	2. 70 dB

UKW

Frequenzbereich:	87,5~108 MHz
Typ:	Einzelsuperhet mit Phasengegenkopplung und Frequenzsysnthese
ZF:	10,7 MHz
Empfindlichkeit:	1,5 μV/75Ω (−3 dB, Grenzempfindlichkeit) 2 μV/75Ω (Rauschabstand 26 dB)
Zweisignal-Trennschärfe:	70 dB (±400 kHz)
Spiegelselektion:	60 dB (bei 98 MHz)

Frequenzzähler

Anzeige:	Flüssigkristallanzeige
Genauigkeit:	Direktanzeige bis 100 Hz für

1. MERKMALE

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- Direktzugangsabstimmung.
  Diese Funktion ermöglicht den sofortigen Empfang eines Senders, indem einfach die entsprechende Taste niedergedrückt wird.
- Vorabstimmung von bis zu 15 Sendern.
- Direktberührungsabstimmung über 22 Berührungstasten.
- AM-Bandbreiten-Wahlschalter mit 3 Stellungen.
- USB-, OSB- und ungedämpfter Wellenbetrieb.
- AM-Frequenzstufen-Wahlschalter.
- Anzeigeinstrument für UKW-Mittenabstimmung, Feldstärke und Batterieprüfung.
- Separate Baß- und Höhenregler.
- HF-Verstärkungsregler.
- Automatische Störkrachbegrenzung (ANL).
- Schalter für gehörrichtige Lautstärke.
- Ein-Aus-Schalter für Hochtöner.
- Abstimmgeschwindigkeits-Wahlschalter (Pangsam/schnell).
- Frequenzanzeige mit 30 Leuchtdioden.

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- Auf 7 Tage programmierbare Zeitschaltuhr.
  Die Programmierfunktion ermöglicht die Einstellung jeder gewünschten Frequenz (UKW, LW, MW oder KW) auf Empfang zu einer beliebigen Zeit.
- Quarzuhr mit Flüssigkristallanzeige für Monats-, Monatstag- und Wochentaganzeige.
  Die Uhr ist mit Mikrocomputerkreisen bestückt, so daß ein zuverlässiger Betrieb gewährleistet ist.
- Batterie-Reservestromversorgung für Uhr und Speicher.
- Doppelzeitanzeigetaste
- 12/24-Stundenanzeige-Wahltaste
- Zeitzeichen

2. TECHNISCHE DATEN

LW/MW/KW (1,6110~2,9009 MHz)

Frequenzbereiche:	LW: 150,0~420,0 kHz (2000~714,3 m) MW: 520,0~1610,9 kHz (576,9~186,2 m) KW: 1,6110~2,9009 MHz (186,2~103,4 m)	
Typ:	Einzelsuperhet mit Phasengegenkopplung und Frequenzsynthese	
ZF:	455 kHz	
Empfindlichkeit:	Rauschab- stand 6 dB LW: 1 μV MW: 1 μV KW: 1 μV	(Modulation 400 Hz, 30%, füt 50 mW)
Trennschärfe:	Breitband:	±2,4 kHz (−6 dB) ±5 kHz (−60 dB)
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Spiegelselektion:	LW: 120 dB (bei 280 kHz) MW: 80 dB (bei 1000 kHz) KW: 60 dB (bei 2,3 MHz)	

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Empfindlichkeit:	KW 0,5~1 μV (Rauschabstand 6 dB) SSB/CW 0,2 μV (Rauschabstand 6 dB) (Modulation 400 Hz, 30%, für 50 mW)	
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UKW

Frequenzbereich:	87,5~108 MHz
Typ:	Einzelsuperhet mit Phasengegenkopplung und Frequenzsysnthese
ZF:	10,7 MHz
Empfindlichkeit:	1,5 μV/75Ω (−3 dB, Grenzempfindlichkeit) 2 μV/75Ω (Rauschabstand 26 dB)
Zweisignal-Trennschärfe:	70 dB (±400 kHz)
Spiegelselektion:	60 dB (bei 98 MHz)

Frequenzzähler

Anzeige:	Flüssigkristallanzeige
Genauigkeit:	Direktanzeige bis 100 Hz für

Tuning

Frequency Step:

	Fast	Slow
SSB/CW	500 Hz	100 Hz
AM 100/500 Hz	500 Hz	100 Hz
1/5 kHz	5 kHz	1 kHz
FM	50 kHz	10 kHz

Tuning Speed Ratio: Fast:Slow=5:1

Preset Memory

Number of Preset: 15-Station Preset

Clock/Timer/Calendar

Type: LCD Quartz Clock/7-day Programmable Timer

Function:
Real Time (Hour, Minute, Second)
Calendar (Month, Date, Day)
Dual Time
Time Signal
12/24 Hour Setting
Sleep
DC Timer out Control
6 Automatic Reception Mode
① Repeated weekly operation for daily
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of the above 6 types of programs, up to 4 can be stored in memory.

Precision: Monthly Difference ±15 seconds (16°C temperature, 50% humidity)

General Specifications

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IC	41
Transistor	174
FET	21

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10 W (AC, MPO)

Speaker: 2 way Speaker System
18×12 cm Oval Type (4Ω)
6.5 cm (4Ω)

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3 V (2×UM-3, "AA") . . . Back-up for Memory & Clock
DC in 12~18 V

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External Speaker out (3.5∅, 4~8Ω)
External Speaker out (DIN, 4~8Ω)
AC in
DC in
DC Timer out

Antenna:
FM Whip Antenna 100 cm
Ext. Ant. (one-touch, 75Ω)
Ext. Ant. (DIN, 300Ω)
LW Ferrite Core Antenna 12∅×200 mm
MW/SW (1.6110~2.9009 MHz)
Ferrite Core Antenna 12∅×200 mm
SW (2.9010~30.0000 MHz)
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External Antenna (one-touch, 75Ω)
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Dimensions: (W×H×D) 520×362×206 mm (20-1/2"×14-1/4"×8-1/8")

Weight: 20.3 kg (44 lb. 14.1 oz) without batteries

Specifications subject to change without notice.

SSB/CW/AM
Direktanzeige bis 10 kHz für UKW

Zahlen: 6 Stellen

Frequenzstabilität: Innerhalb von 100 Hz während beliebiger 60 Minuten nach Erwärmung

Abstimmung

Frequenzstufen:

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	1 kHz/5 kHz	1 kHz
UKW	50 kHz	10 kHz

Abstimmgeschwindigkeitsverhältnis: Schnell:langsam=5:1

Festsenderspeicher

Anzahl der Festsender: 15

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Funktionen: Gegenwärtige Uhrzeit (Stunde, Minute, Sekunde)
Kalender (Monat, Datum, Tag)
Doppelzeit
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6. Empfangsautomatik
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② Wiederholter wöchentlicher Betrieb, einmal pro Woche
③ Wiederholter wöchentlicher Betrieb, an 6 Tagen
④ Wiederholter wöchentlicher Betrieb, zweimal pro Woche
⑤ Wiederholter wöchentlicher Betrieb, an 5 Tagen
⑥ Einmaliger Betrieb, nur an einem Wochentag
Von den obigen 6 Programmtypen können bis zu 4 im Speicher gespeichert werden.

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Gleichstrom: 18 V (12×UM-1, "D")
3 V (2×UM-3, "AA") . . .
Reservestromversorgung für Speicher und Uhr
Gleichstromeingang: 12~18 V

Leistungsaufnahme: 35 W

Buchsen: Ohrhörerausgang (3,5∅)
Kopfhörerausgang (6∅)
Aufnahmeausgang (3,5∅, 8 Kiloohm)
Aufnahmeausgang (DIN, 80 Kiloohm)
Reserveeingang (3,5∅, 570 Kiloohm)
Reserveeingang (DIN, 570 Kiloohm)
MPX-Ausgang (3,5∅, 5 Kiloohm)
Außenlautsprecherausgang (3,5∅, 4~8 Ohm)
Außenlautsprecherausgang (DIN, 4~8 Ohm)
Netzstromeingang
Gleichstromeingang
Gleichstrom-Zeitschaltuhrausgang

Antennen: UKW; Teleskopantenne, 100 cm
Außenantenne (Schnellanschluß, 75 Ohm)
Außenantenne (DIN-Anschluß, 300 Ohm)
LW; Ferritkernantenne, 12∅×200 mm
MW/KW (1,6110~2,9009 MHz); Ferritkernantenne, 12∅×200 mm
KW (2,9010~30,0000 MHz); Teleskopantenne, 150 cm
LW/MW/KW; Außenantenne (Schnellanschluß, 75 Ohm)
Außenantenne (DIN-Anschluß, 75 Ohm)

Abmessungen: 520×362×206 mm
(B×H×T) (20-1/2×14-1/4×8-1/8")

Gewicht: 20,3 kg (44 lb. 14,1 oz)

Änderungen der technischen Daten jeder zeit vorbehalten.

1. FEATURES

[Radio Section]

- PLL (Phase-Locked-Loop) synthesizer FM/LW/MW/SW world-wide receiver.
- Direct-access tuning
  This function allows a broadcast to be received immediately simply by depressing the key.
- 15-station preset tuning
- Direct touch tuning by 22 touch keys
- 3-step AM bandwidth selector
- LSB, USB and CW operation
- AM frequency step selector
- Meter for FM center tuning, signal strength and battery check
- Separate bass and treble controls
- RF gain control
- Automatic noise limiter (ANL)
- Loudness switch
- Tweeter on/off switch
- Tuning speed selector (FAST/SLOW)
- 30-LED frequency indication

[Clock section]

- 7-day programmable timer
  The programming function makes it possible to set any desired frequency (FM, LW, MW or SW) to be received at any desired time.
- LCD quartz clock for month, date, day of the week indication
- Battery back-up for clock and memory
- Dual Time Display
- 12/24 HR. Display
- Time Signal

2. SPECIFICATIONS

LW/MW/SW (1.6110~2.9009 MHz)

Frequency Range:	LW 150.0~420.0 kHz (2000~714.3 m) MW 520.0~1610.9 kHz (576.9~186.2 m) SW 1.6110~2.9009 MHz (186.2~103.4 m)		
Type:	Single Superheterodyne with Phase-Locked-Loop Synthesizer		
IF:	455 kHz		
Sensitivity:	S/N 6 dB LW 1 μV MW 1 μV SW 1 μV	(Modulation 400 Hz, 30%, for 50 mW)	
Selectivity:	WIDE	±2.4 kHz (−6 dB) ±5 kHz (−60 dB)	
	MED.	±1.6 kHz (−6 dB) ±3.2 kHz (−60 dB)	
	NARROW	±1.2 kHz (−6 dB) ±2.3 kHz (−60 dB)	
Image Interference Ratio:	LW 120 dB (at 280 kHz) MW 80 dB (at 1000 kHz) SW 60 dB (at 2.3 MHz)		

SW (2.9010~30.0000 MHz)

Frequency Range:	2.9010~30.000MHz (103.4~10 m)		
Type:	Double Superheterodyne with Phase-Locked-Loop Synthesizer		
IF:	1st IF 46.125 MHz 2nd IF 455 kHz		
Sensitivity:	SW 0.5~1 μV (S/N 6 dB) SSB/CW 0.2 μV (S/N 6 dB) (Modulation 400 Hz, 30%, for 50 mW)		
Selectivity:	WIDE	±2.4 kHz (−6 dB) ±5 kHz (−60 dB)	
	MED.	±1.6 kHz (−6 dB) ±3.2 kHz (−60 dB)	
	NARROW	±1.2 kHz (−6 dB) ±2.3 kHz (−60 dB)	
Image Interference Ratio:		1st 100 dB	2nd 70 dB

FM

Frequency Range:	87.5~108 MHz
Type:	Single Superheterodyne with Phase-Locked-Loop Synthesizer
IF:	10.7 MHz
Sensitivity:	1.5 μV/75Ω (−3 dB, Limit. Sens.) 2 μV/75Ω (S/N 26 dB)
Two-Signal Selectivity:	70 dB (±400 kHz)
Image Interference Ratio:	60 dB (at 98 MHz)

Frequency Display

Display Type:	LCD (Liquid Crystal Display)
Precision:	Direct Readout to 100 Hz for SSB/CW/AM Direct Readout to 10 kHz for FM
Number of Figures:	6 digits
Frequency Stability:	Within 100 Hz during any 60 minutes after warm-up time

F I C H E N O. 8 7 9 IV(V).

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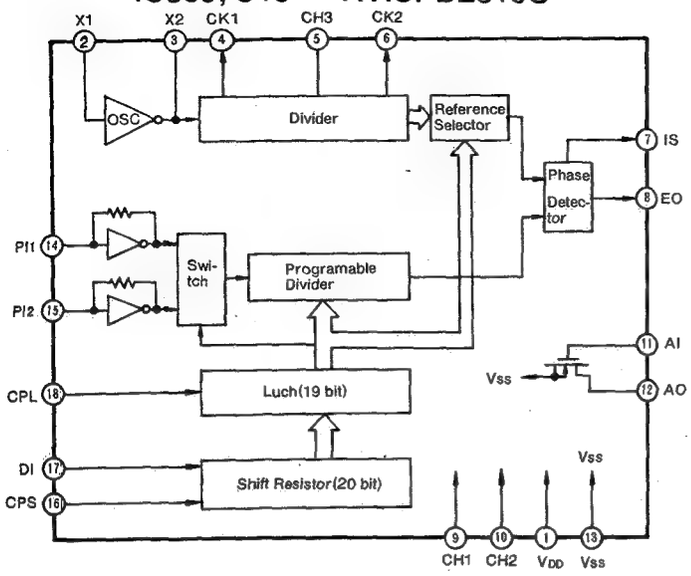
M O D E L R F - 9 0 0 0 . S U P P L E M E N T - 1.		M O D E L L R F - 9 0 0 0 . N A C H T R A G - 1.
Specifications.	A 1- A 3 A 4- A 5	Technische Daten.
Contents.	A 6	Inhalt.
Location of Controls.	A 7- A10	Bedienungselemente und ihre Funktionen.
Disassembly instructions.	A11- A14 B 1- B 4	Demontageanleitungen.
Block diagram.	B 7- B 8	Blockschaltbild.
Circuit boards and Schematic diagrams.		Platinen - Module und Schaltpläne.
Circuit board (1 U P) LW,MW, Schematic diagram. SW 1- RF.	B 9- B10 B11- B12	Platine (1 U P) Schaltplan. LW,MW,SW 1, RF.
C.B. (2UP) FM,RF,IF,DET, Schematic diagram - Meter	B13- B14 C 1- C 2	Platine (2UP) FM,RF,IF,DET, Schaltplan. Meter.
Circuit board (3UP,13UPa,b SW2,5BPF,RF-IF & Antenna.) Schematic diagram.	E 1- E 4 G 1- G 4 C 3- C 4	Platine (3UP,13UPa,b, SW2,5BPF,RF-IF und Antenne. Schaltplan.
C.B. (4UP) LW,MW,SW1-VCO Schematic diagram. Xtal,Osc.Mix.	C 5- C 6 C 7- C 8	Platine (4UP) LW,MW,SW1-VCO, Schaltplan. Xtal,Osc. Mix.
C.B. (5UP) IF,DET,BPF,SSB, Schematic diagram. Amp-Meter.	C 9- C10 C11- C12	Platine (5UP) IF,DET,BPF,SSB, Schaltplan. Amp.-Meter.
C.B. (6UP) 2nd PLL,VCO & Mix. Schematic diagram.	C13- C14 D 1- D 2	Platine (6UP) 2.PLL,VCO-Mix. Schaltplan.
C.B. (7UP) SW2-5, FM,VCO,Mix Schematic diagram. Muting.	D 3- D 4 D 5- D 6	Platine (7UP) SW2-5, FM, VCO, Schaltplan. Mix, Muting.
C.B. (8UP) 1st, 2nd PLL & Schematic diagram. Control.	D 7- D 8 D 9- D11	Platine (8UP) 1.u.2. PLL und Schaltplan. Regelung.
C.B. (9UP) Radio Control-2. Schematic diagram.	D13- D14 E13- E14	Platine (9UP) Radioregelung 2. Schaltplan.
C.B. (15UP) Common.	E 1- E 4 G 1- G 4	Verbindungs-Platine (15UP).
Schematic diagram- Common. (15UP)	E 5- E 8 G 5- G 8	Verbindungs-Schaltplan. (15UP)
C.B. (14UP) Key board. Schematic diagram.	E 9- E12 G 9- G12	Schalter-Platine (14UP). Schaltplan.
C.B. (16UP) Clock. Schematic diagram.	F13- F14 F13- F14	Zeituhr-Platine (16UP). Schaltplan.

further		weiter
Circuit boards.	Fiche Nr.879 V.	Platinen-Module.
Schematic diagrams.		Schaltpläne.
Alignments.		Abgleichanweisungen.
Exploded views.		Explosionszeichnungen.
Replacement parts list.		Ersatzteile-Liste.

S/M. Order No. RD-8104-1874 S2 — S/M.Best.Nr.RD-8104-1874 S2

IC809, 810 RVIUPD2819C



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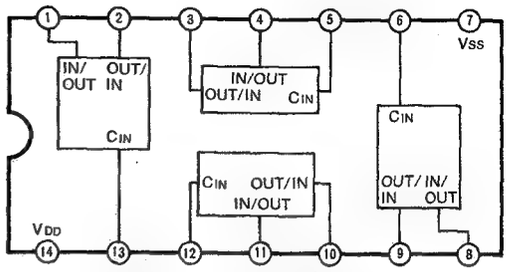

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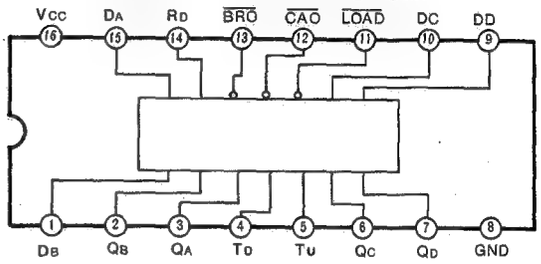

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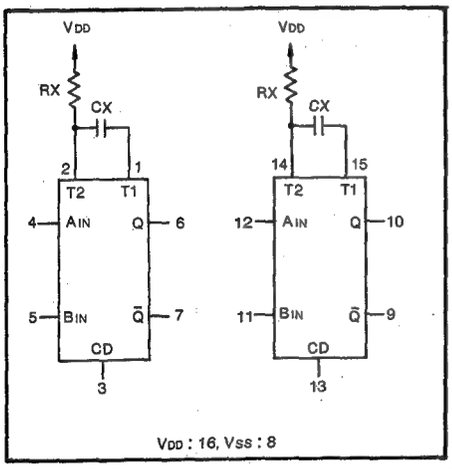

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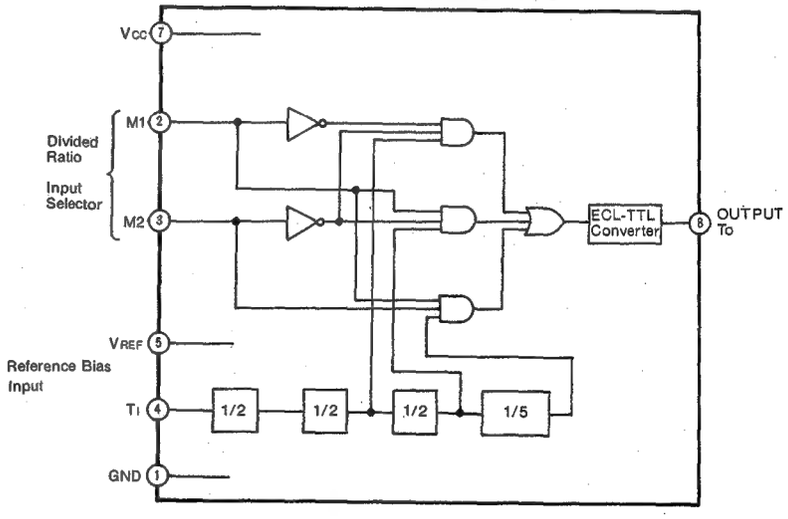

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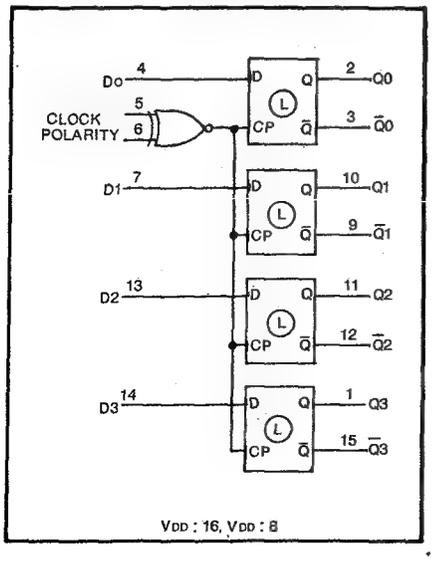
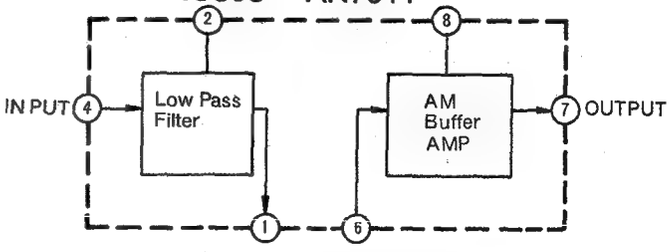


IC808 AN7911



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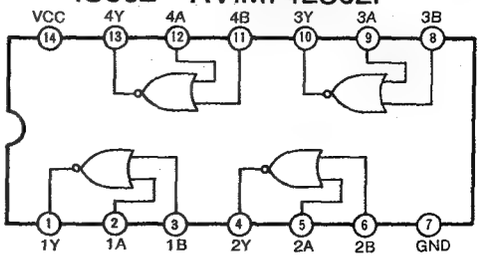
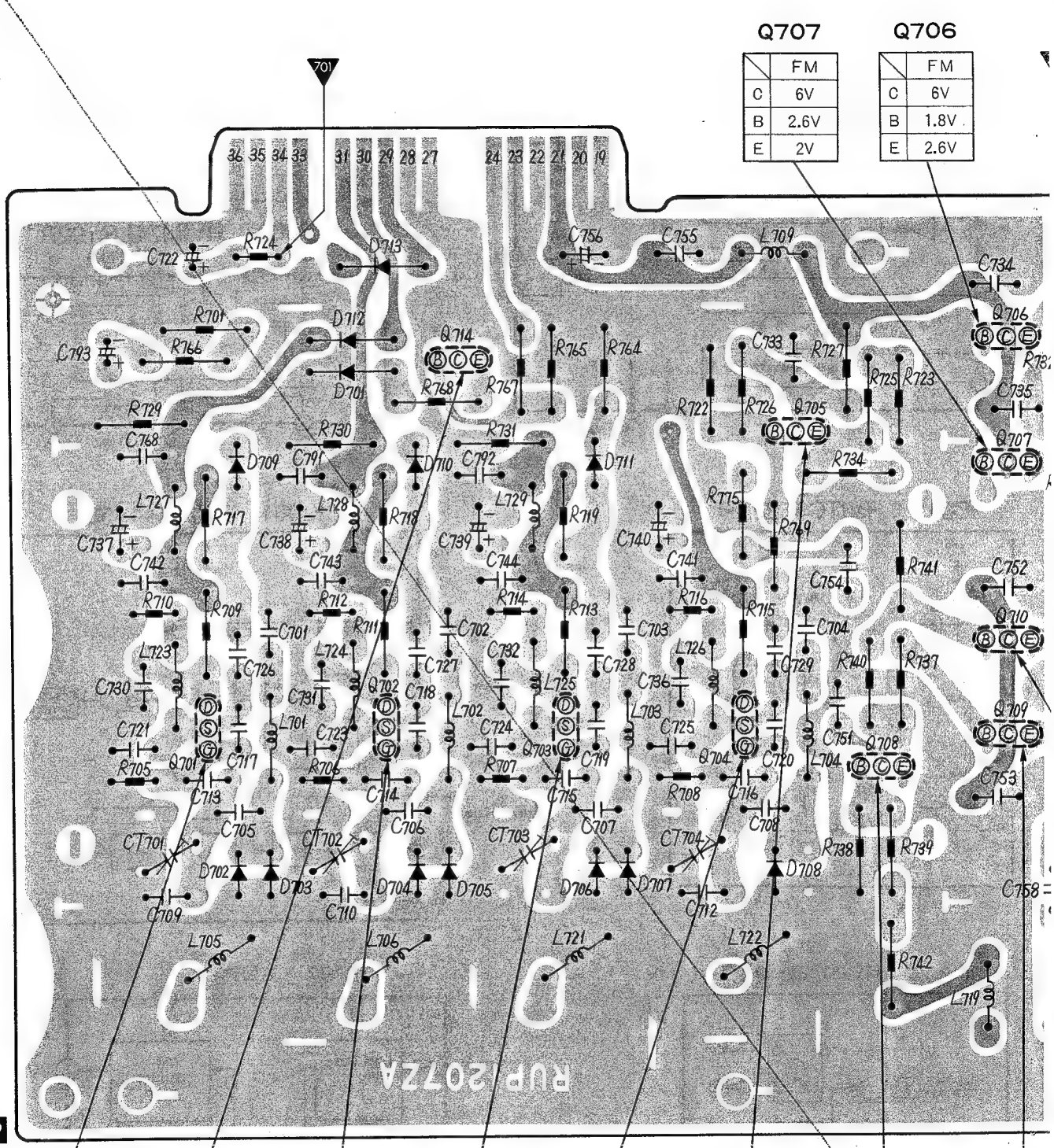


CIRCUIT BOARD WIRING VIEW (7 UP)



Q707

	FM
C	6V
B	2.6V
E	2V

Q706

	FM
C	6V
B	1.8V
E	2.6V

Q701

	SW2,3
D	4.6V
G	0V
S	0.4V

Q714

C	0V
B	0.5V
E	0V

Q702

	SW4
D	5.4V
G	0V
S	0.4V

Q703

	SW5
D	5.3V
G	0V
S	0.4V

Q704

	FM
D	5.5V
G	0V
S	0.5V

Q705

	FM
C	5.6V
B	3.5V
E	2.7V

Q708

	SW2~5
C	5.4V
B	3.3V
E	2.6V

Q709

	SW2~
C	5.4V
B	2.6V
E	1.8V

CONTENTS

1. FEATURES .....
2. SPECIFICATIONS .....
3. LOCATION OF CONTROLS .....
4. CONTROLS AND THEIR FUNCTIONS .....
5. DISASSEMBLY INSTRUCTIONS .....

Rear Cabinet Telescopic Antenna & Chassis .....
Location of Printed Circuit Board ....
Power Supply (12 UPa), EXT DC IN (12UPc), DC-DC CONV (13 UPe), AF Filter (12 UPf) & AF AMP, Constant Voltage Power Supply (11 UPa, b) Circuit Boards .....
1 UP~10 UP .....
Clock (16 UP, 18 UP), Frequency (17 UP), Antenna (13 UPa, b) Circuit Boards Meter .....
Key Board (14 UP) .....
Common Board (15 UP) .....
Tuning Block (13 UPc) & Headphone (12 UPd), EP, Rec Out (12 UPe) Jack Board .....
Button, Handle, Handle Mechanism Block, Jack Cover, Front Panel & Indicating Plate .....
Tuning Block.....
Connector Positions .....

6. BLOCK DIAGRAM .....
7. SCHEMATIC DIAGRAM & CIRCUIT BOARD WIRING VIEW .....

9. ALIGNMENT POINTS 72
10. CABINET PARTS 73
11. ELECTRICAL PARTS 74
12. ACCESSORIES & PACKING MATERIALS 78
13. REPLACEMENT PARTS LIST 79

13-1 LW, MW, SW1—RF CIRCUIT (1 UP) 79
13-2 FM, RF, IF, DET, METER CIRCUIT (2 UP) 80
13-3 SW2~5 BPF RF~IF CIRCUIT (3 UP) 81
13-4 LW, MW, SW1—VCO, X'TAL OSC, MIX CIRCUIT (4 UP) 83
13-5 IF, DET, BPF, SSB & AM METER CIRCUIT (5 UP) 84
13-6 2ND PLL, VCO & MIX CIRCUIT (6 UP) 86
13-7 SW2~5, FM VCO, MIX, MUTING CIRCUIT (7 UP) 87
13-8 1ST, 2ND PLL, CONTROL CIRCUIT (8 UP) 89
13-9 RADIO CONTROL-2 CIRCUIT (9 UP) ..... [illegible]
13-23 CONNECTOR CIRCUIT (13 UPf) .. 97
13-24 ANTENNA, BPF CIRCUIT (13 UPg) 97
13-25 KEY BOARD (14 UP) 97
13-26 COMMON CIRCUIT (15 UP) 98
13-27 CLOCK CIRCUIT (16 UP) 98
13-28 FREQUENCY DISPLAY CIRCUIT (17 UP) 99
13-29 COMMON CIRCUIT (18 UP) 99
13-30 CHASSIS PARTS 99
13-31 CABINET PARTS 100
13-32 ACCESSORY PARTS 101
13-33 PACKING MATERIALS 101
13-34 PRINTED MATERIALS 101

1. PARTICUARITÉS

[Section radio]

- Récepteur mondial en FM/GO/PO/OC, équipé d'un synthétiseur à asservissement de phase (PLL).
- Syntonisation à accès direct.
  Ce dispositif permet la réception instantanée d'une station par simple pression d'une touche.
- Accord préréglé de 15 stations émettrices.
- Accord direct par 22 touches à effleurement.
- Sélecteur de largeur de bande AM à 3 positions.
- Exploitation en BLU inférieure, BLU supérieure et CW (signal à onde entretenue).
- Sélecteur d'incrément de fréquence AM.
- Indicateur d'accord FM à zéro central, d'intensité du signal et de vérification des piles.
- Commandes séparées pour les tonalités graves et aiguës.
- Commande de gain RF.
- Limiteur automatique de bruit (ANL).
- Correcteur physiologique.
- Commutateur de mise en marche/arrêt du tweeter.
- Sélecteur de vitesse de syntonisation. (lente ou rapide)
- Indication de fréquence par 30 diodes électro-luminescentes (LED).

[Section Horlogerie]

- Minuterie programmable sur 7 jours
  La fonction de programmation rend possible le réglage de n'importe quelle fréquence (FM, GO, PO ou OC) que l'on désire recevoir, et ceci à n'importe quel moment.
- Horloge à quartz, dont l'affichage à cristaux liquides (LCD) indique le mois, la date et le jour de la semaine.
  Elle est dotée de circuits de micro-ordinateur dont la fiabilité du fonctionnement est garantie.
- Dispositif d'alimentation d'appoint pour l'horloge et la mémoire.
- Touche d'affichage horaire secondaire
- Sélecteur d'affichage en cycle 12/24 heures
- Commutateur marche/arrêt de top horaire

2. FICHE TECHNIQUE

Section GO/PO/OC (1,6110~2,9009 MHz)

Plage de fréquence:	GO 150~420 kHz (2000~714,3 m) PO 520,0~1610,9 kHz (576,9~186,2 m) OC 1,6110~2,9009 MHz (186,2~103,4 m)
Type:	Superhétérodyne simple avec synthétiseur à verrouillage de phase
Fréquence inter-médiaire:	455 kHz
Sensibilité:	S/N 6 dB — Modulation 400 Hz, 30% pour 50 mW GO 1 μV PO 1 μV OC 1 μV
Sélectivité:	WIDE (large) ±2,4 kHz (−6 dB) ±5 kHz (−60 dB) MED (medium) ±1,6 kHz (−6 dB) ±3,2 kHz (−60 dB) NARROW (étroite) ±1,2 kHz (−6 dB) ±2,3 kHz (−60 dB)
Taux d'interférence d'image:	GO 120 dB (à 280 kHz) PO 80 dB (à 1000 kHz) OC 60 dB (à 2,3 MHz)
Commande de gain RF:	−40 dB

Section OC (2,9010~30,0000 MHz)

Plage de fréquence:	2,9010~30,0000 MHz (103,4~10 m)
Type:	Superhétérodyne double avec synthétiseur à verrouillage de phase
Fréquence inter-médiaire:	1ère FI 46,125 MHz 2ème FI 455 kHz
Sensibilité:	OC 0,5~1 μV (S/N 6 dB) SSB 0,2 μV (S/N 6 dB) (Modulation 400 Hz, 30% pour 50 mW)
Sélectivité:	WIDE (large) ±2,4 kHz (−6 dB) ±5 kHz (−60 dB) MED (medium) ±1,6 kHz (−6 dB) ±3,2 kHz (−60 dB) NARROW (étroite) ±1,2 kHz (−6 dB) ±2,3 kHz (−60 dB)
Taux d'interférence d'image:	1ère 100 dB 2ème 70 dB

Section FM

Plage de fréquence:	87,5~108 MHz
Type:	Superhétérodyne simple avec synthétiseur à verrouillage de phase
Fréquence inter-médiaire:	10,7 MHz
Sensibilité:	1,5 μV/75Ω (−3 dB Seuil de sensibilité) 2 μV/75Ω (S/N 26 dB)
Sélectivité deux signaux:	70 dB (±400 kHz)
Taux d'interférence d'image:	60 dB (à 98 MHz)

Affichage de fréquences

Affichage:	Par cristaux liquides (LCD)
Exactitude:	Lecture directe à 100 Hz près pour émissions BLU/CW/AM Lecture directe à 10 kHz près pour FM
Nombre de chiffres affichés:	6
Stabilité de fréquence:	A 100 Hz près pendant 60 minutes après temps de réchauffement

Mécanisme de syntonisation

Incrément de fréquence:	Rapide	Lente
BLU/CW	500 Hz	100 Hz
AM	100 Hz/500 Hz	100 Hz
	1 kHz/5 kHz	1 kHz
FM	50 kHz	10 kHz

Taux de vitesse d'accord: Rapide:Lente=5:1

Mémoire de préréglage

Nombre de stations préréglables: 15 stations

Horloge/minuterie/calendrier

Type:	Horloge à quartz à affichage par cristaux liquides (LCD)/Minuterie programmable sur 7 jours.
Fonctions:	Heure réelle (Heures, minutes, secondes) Calendrier (Mois, date, jour) Temps double Top horaire sur l'heure Réglage en cycle 12/24 heures Décompte minuté (Sleep) Commande de mise hors service de minuterie à CC. 6 modes de réception automatique ① Opération hebdomadaire répétée quotidiennement ② Opération hebdomadaire répétée une fois par semaine ③ Opération hebdomadaire répétée tous les jours sauf un ④ Opération hebdomadaire répétée deux fois par semaine ⑤ Opération hebdomadaire répétée tous les jours sauf deux ⑥ Opération unique, un jour de la semaine seulement On pourra programmer dans la mémoire 4 des 6 types de programmes présentés ci-dessus.
Précision:	Ecart mensuel ±15 secondes (Température 16°C, Humidité, 50%)

Données générales

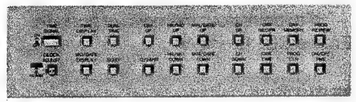
Semiconducteurs:	Circuits intégrés 41 Transistors 174 Transistors FET 21
Puissance de sortie:	CC max. 7 W (60%, MOD. 400 Hz) 10 W (CA, MPO)
Haut-parleur:	Système à 2 voies Type ovale 18×12 cm (4Ω) 6,5 cm (4Ω)
Alimentation électrique:	CA 100~110/115~127/200~220/230~250 V, 50/60 Hz CC 18 V (12×UM-1, taille "D") 3 V (2×UM-3, "AA") . . . Alimentation d'appoint pour mémoire et horloge. Entrée CC: 12~18 V
Consommation:	35 W
Prises jacks:	Sortie écouteur (3,5∅) Sortie casque (6∅) Sortie enregist. (3,5∅, 8 kΩ) Sortie enregist. (DIN, 80 kΩ) Entrée AUX. (3,5∅, 570 kΩ) Entrée AUX. (DIN, 570 kΩ) Sortie MPX. (3,5∅, 5 kΩ) Sortie haut-parleur indépendant (3,5∅, 4~8Ω) Sortie haut-parleur indépendant (DIN, 4~8Ω) Entrée CA Entrée CC Sortie minuterie CC
Antenne:	FM Antenne fouet 100 cm Ant. ext. (une touche, 75Ω) Ant. ext. (DIN, 300Ω) GO Antenne à âme de ferrite 12∅×200 mm PO/OC (1,6110~2,9009 MHz) Antenne à âme de ferrite 12∅×200 mm OC (2,9010~30,0000 MHz) Antenne fouet 150 cm GO/PO/OC Ant. ext. (une touche, 75Ω) Ant. ext. (DIN, 75Ω)
Dimensions: (L×H×P)	520×362×206 mm (20-1/2×14-1/4×8-1/8")
Poids:	20,3 kg (44 lb. 14, 1 oz) sans les piles

Specifications présentées se reservent de changements sans prévis.

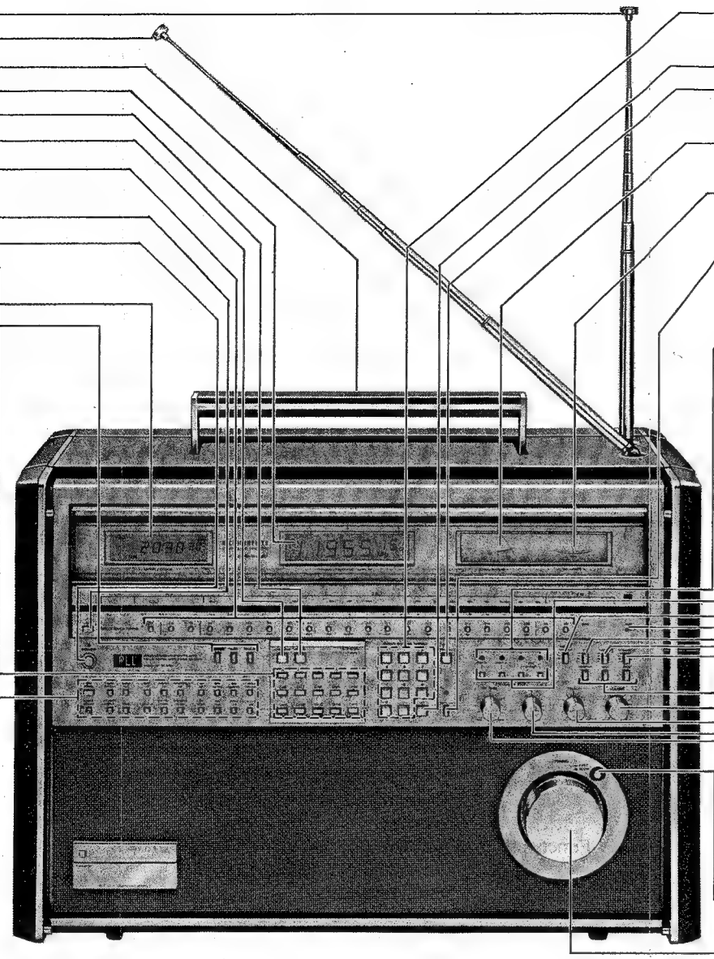
3. LOCATION OF CONTROLS

❶ SW Telescopic Antenna
❷ FM Telescopic Antenna
❸ Handle
❹ Frequency Display
❺ Memory Key (MEMORY)
❻ Scan/Stop Key (SCAN/STOP)
❼ Direct Touch Tuning Keys (DIRECT TOUCH TUNING)
❽ Light Button (LIGHT)
❾ Power Switch (POWER)
❿ Preset Tuning Keys (CH1~CH15)
㉛ Clock/Timer/Calender Display
㉜ Program Mode Selector (SELECTOR)

Clock/Timer/Calender Controls

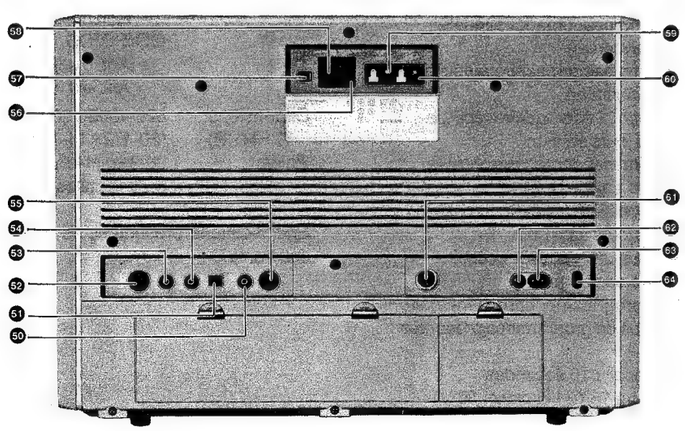


㉝ Time Signal On/Off Switch (TIME SIGNAL)
㉞ Clock Adjust Switch (CLOCK ADJUST)
㉟ Time Display Key (TIME DISPLAY)
㊱ Month/Date Display Key (MO./DATE)
㊲ Dual Time Display Key (DUAL TIME)
㊳ Sleep Set Key (SLEEP)
㊴ Day Up Key (DAY UP)
㊵ 12/24 HR. Display Selector Key (12/24 HR.)
㊶ Hour/Month Up, Down Keys (HR./MO. UP, DOWN)
㊷ Minute/Date Up, Down Keys (MIN./DATE UP, DOWN)
㊸ Channel Up, Down Keys (CH UP, DOWN)
㊹ Day Reciprocal Key (DAY RECIPR.)
㊺ One Time Key (ONE TIME)
㊻ Day Memory Key (DAY MEMORY)
㊼ Program Clear Key (PROG. CLR.)
㊽ Program Review Key (PROG. REVIEW)
㊾ On/Off Time Set Key (ON/OFF TIME)



⓫ Direct-Access Tuning Keys (DIRECT-ACCESS TUNING)
⓬ Tuning Set Key (SET)
⓭ Frequency Setting Key (FREQUENCY)
⓮ Signal/Battery Meter (SIGNAL/BATTERY)
⓯ FM Center Tuning Meter (FM TUNING)
⓰ Tuning Lock Button (TUNING LOCK)
⓱ AM Mode Indicator (AM MODE)
⓲ AM Mode Selector (AM Frequency Step Selector) (FREQUENCY STEP)
⓳ Meter Selector (SIGNAL/BATTERY)
⓴ Aux. Indicator (AUX.)
㉑ ANL Switch (ANL)
㉒ Tweeter On/Off Switch (TWEETER)
㉓ Loudness Switch (LOUDNESS)
㉔ AM Band Width Selector (AM BAND SELECTOR)
㉕ Volume Control (VOLUME)
㉖ Treble Control (TREBLE)
㉗ Bass Control (BASS)
㉘ RF Gain Control (RF GAIN)
㉙ Tuning Speed Selector (FAST/SLOW)
㉚ Manual Tuning Control

Fig. 1-1



㊿ External Speaker Jack (EXT SP)
51 AUX/RADIO Switch (AUX/RADIO)
52 AUX/REC Jack (AUX/REC)
53 AUX Jack (AUX)
54 MPX OUT Jack (MPX OUT)
55 External Speaker DIN (EXT SP)
56 AM Antenna DIN (AM ANT)
57 Antenna Selector Switch (INT ANT/EXT ANT)
58 FM Antenna DIN (FM ANT)
59 FM Antenna Terminal (FM ANT)
60 AM Antenna Terminal (AM ANT)
61 Timer Out Jack (TIMER OUT)
62 DC IN Jack (DC IN 12~18 V)
63 AC IN Jack (AC IN)
64 Voltage Selector Switch (VOLTAGE SELECTOR)

Fig. 1-2

4. CONTROLS AND THEIR FUNCTIONS

Radio section:

❶ SW Telescopic Antenna
Used for receiving short-wave broadcasts.

❷ FM Telescopic Antenna
Used for receiving FM broadcasts.

❸ Handle

❹ Frequency Display
Indicates the frequency of the LW, MW, SW or FM broadcasting station received.

❺ Memory Key (MEMORY)
Depress this key to preset the tuned frequency into one of the preset tuning channels (CH1~CH15).
(For details, refer to "Preset tuning.")

❻ Scan/Stop Key (SCAN/STOP)
When this key is depressed, scanning is performed from CH1→CH2 . . . CH15→CH1→CH2—and the frequency of each of the channels is indicated simultaneously on the frequency display. Scanning stops when this key is depressed again at the desired channel.

❼ Direct Touch Tuning Keys (DIRECT TOUCH TUNING)
There are 1 LW key, 2 MW keys, 17 SW keys and 2 FM keys. Tuning is facilitated by depressing the key in the desired band or a key closest to the desired broadcasting station.
With SW broadcasts, the center frequency of each meter band is tuned. By using the direct touch keys in combination with the tuning control, manual tuning can be performed speedily.

❽ Light Switch (LIGHT)
When this switch is depressed (▬→▬) and the Power switch❾ is at ON, the clock/calendar display, frequency display and meters are all illuminated.

❾ Power Switch, Power Indicator (POWER)
When this switch is depressed, the power comes on and it goes off when depress again.

5.DISASSEMBLY INSTRUCTIONS

5-1. ■ Rear Cabinet, Telescopic Antenna & Chassis

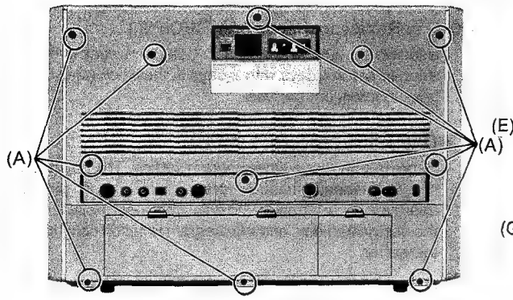


Fig. 2

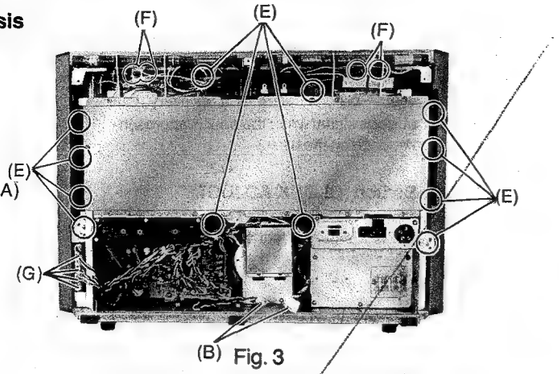


Fig. 3

(RZZ0401P)

Fig. 4

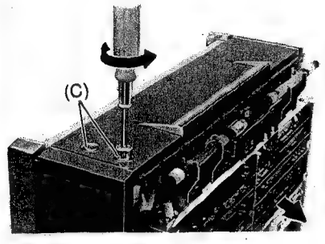


Fig. 4-1

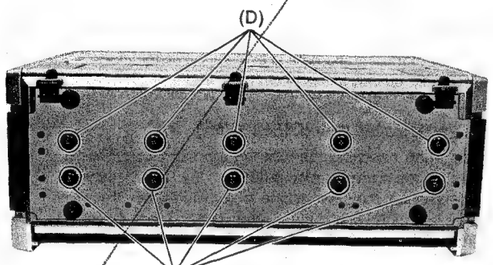


Fig. 5

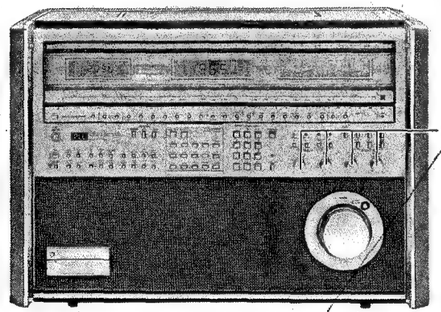


Fig. 6

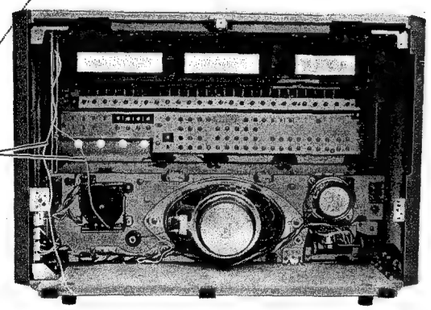
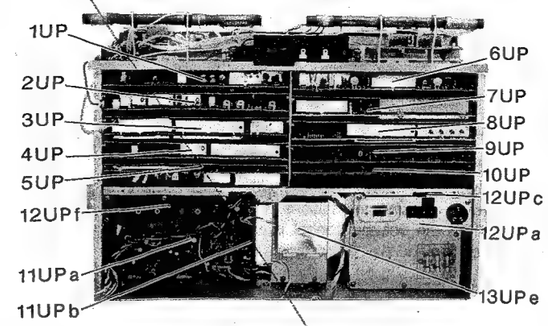


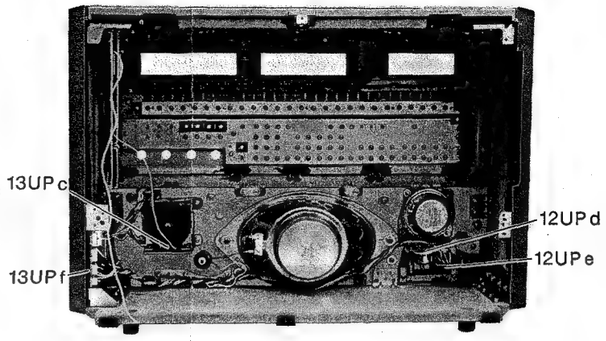
Fig. 7

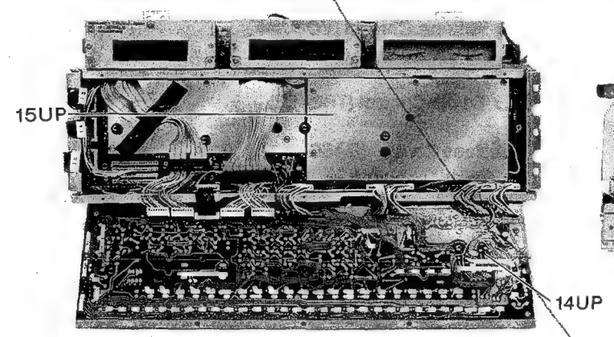
Procedure	To remove—.	Remove—.	Shown in Fig—.
1	Rear Cabinet	Screw (3×8) ..... (A)×11	2
2		Socket (CN46, 47) ..... (B)×2	3
3	Telescopic Antenna (*1)	Holder ..... (C)×2	4, 4-1
4	Chassis (*2)	Screw (4×25) ..... (D)×10	5
5		Red Screw (3×8) ..... (E)×12	3
6		Red Screw (4×12) ..... (F)×4	3
7		Extend the antenna.	
8		Lower the handle	
9		Socket (CN42~45) ..... (G)×4	3
10		Knob ..... (H)×4	6
11		Remove the chassis in the direction of arrow.	4-1
12		Antenna Socket ..... (I)×2	7

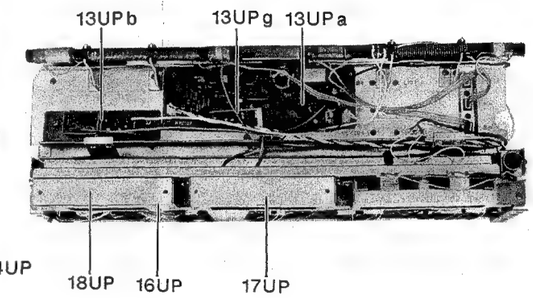
*1. Using the repair tool (RZZ0401P) shown in Fig. 4, remove the antenna holder.
*2. When putting the chassis in a box, check the position of the antenna and the handle.

5-2. ■ Location of Printed Circuit Board









PC Board	Main Circuitry
1 UP	LW, MW, SW1—RF
2 UP	FM RF IF DET, METER
3 UP	SW2~5 BPF, RF~IF
4 UP	LW, MW, SW1—VCO, Xtal OSC, MIX
5 UP	IF, DET, BPF, SSB, AM METER
6 UP	2nd PLL, VCO, MIX
7 UP	SW2~5, FM VCO, MIX, Muting
8 UP	1st, 2nd PLL, Control
9 UP	Radio Control-2
10 UP	Radio Control-1, μcom Block
11 UPa	AF AMP, Constant Voltage Power Supply
11 UPb	AF AMP, Constant Voltage Power Supply
12 UPa	Power Supply
12 UPb	Back up, Timer Out, Connector
12 UPc	EXT DC IN
12 UPd	Headphone
12 UPe	EP, Rec Out
12 UPf	AF Filter
13 UPa	Antenna
13 UPb	Antenna
13 UPc	Tuning
13 UPd	Tuning Speed Selector
13 UPe	DC-DC CONV
13 UPf	Connector
13 UPg	Whip BPF
14 UP	Key Board
15 UP	Common
16 UP	Clock
17 UP	Frequency Display
18 UP	Common

⑩ Preset Tuning Keys (CH1~CH15)
Used for preset tuning.

⑪ Direct-Access Tuning Keys (DIRECT-ACCESS TUNING)

⑫ Tuning Set Key (SET)
Depress this key after having tuned in the desired station with the Direct-Access Tuning keys.

⑬ Frequency Setting Key (FREQUENCY)
Depress this key before setting the frequency of a broadcasting station with a Direct-Access Tuning key. The indication on the frequency display is as below.

⑭ Signal/Battery Meter (SIGNAL/BATTERY)
Use the meter selector ⑲ to check the signal strength or the battery strength.

⑮ FM Center Tuning Meter (FM TUNING)
The meter pointer indicates the center of the scale at the optimum tuning point.

⑯ Tuning Lock Button (TUNING LOCK)
Depress this button when locking a broadcasting station during reception. The tuning lock indicator (LED) lights and there is no change even when any of the radio controls are touched. (But the program is executed.)

⑰ AM Mode Indicators (AM MODE)
The LED corresponding to the actual mode lights.

⑱ AM Mode Selector (Frequency Step Selector) (FREQUENCY STEP)
An AM Mode and SSB is selected with the determined frequency step.

⑲ Signal/Battery Meter Selector (SIGNAL/BATTERY)
Selects the signal/battery meter: released position (▬~▙) for the signal strength and depressed position (▙~▬) for the battery level.

⑳ AUX Indicator (AUX)
This lights when the rear panel Radio/Aux selector has been set to the AUX.

㉑ ANL (Automatic Noise Limiter) Switch (ANL)
Used to reduce the level of automobile ignition noise and other pulse-like noise. If a great deal of noise makes the sound of a broadcasting station difficult to hear, set this switch to the "ON" (▙~▬).

㉒ Tweeter Switch (TWEETER)
Sets the tweeter on and off. Set to "OFF (▬~▙)" when there is a great deal of noise in the high-frequency range with SW broadcast reception and to "ON (▙~▬)" when you want to listen to the hi-fi sound of an FM broadcast.

㉓ Loudness Switch (LOUDNESS)
Used when emphasizing the bass and treble under low volume listening conditions. This switch is effective only when the volume control is set between the left most position and the "5" position.

㉔ AM Band Width Selector (AM BAND WIDTH)
Set to "MED" or "NARROW" when there is a great deal of interference during LW, MW or SW reception. Normally, it is set to the WIDE.

㉕ Volume Control (VOLUME)
Used to adjust the volume.

㉖ Treble Control (TREBLE)

㉗ Bass Control (BASS)
These two controls are used to adjust the sound quality.

㉘ RF Gain Control (RF GAIN)
Used when receiving an LW, MW or SW broadcast. Normally, it is set to the MAX. However, when the signals are too strong and the sound is distorted or when there is interference, rotate the control in the direction of MIN and set to the position which yields the best reception.

㉙ Fast/Slow Tuning Speed Selector (FAST/SLOW)
Makes tuning even more effective with frequency step selector.

㉚ Tuning Control
Used for manual tuning.

Clock/Timer/calendar section

㉛ Clock/Timer/Calendar Display
Indicates the present time, sleep time, program setting time and the calendar.

㉜ Program Mode Selector (SELECTOR)
MANUAL: Manual mode regardless of program.
AUTO: Depress this button after program setting. The program is then executed.
PROG. SET: Set the program with this button depressed.

㉝ Time Signal Switch (TIME SIGNAL)
When set to "ON(▙~▬)", the alarm sounds every hour on the hour. (Two beeps signal when the hour is approaching and one beep sounds on the hour.)

㉞ Clock Adjust Switch (CLOCK ADJUST)
Set to "ADJUST(▬~▙)" when setting the present time. After setting, depress the button to the "LOCK(▙~▬)" and the clock will then start.

㉟ Time Display Key (TIME DISPLAY)
Depress this key when setting the time and display the time on the clock/calendar display.

㊱ Month/Date Display Key (MO./DATE)
Depress when setting the month, date and day.
The display of month and date is exchanged on the clock/timer/calender display in the model for Europe.

㊲ Dual Time Display Key (DUAL TIME)
Depress when checking the time on the sub clock. The display changes to the sub clock and when the Time Display key is depressed, the present time is indicated again. If the display is left on the sub clock, a return will be made to the present time automatically after 7 or 8 seconds.

㊳ Sleep Set Key (SLEEP)
Depress when setting the sleep time. The "sleep" time is then indicated on the clock/timer/calendar display.

㊴ Day Up Key (DAY UP)
Used to set the day with a month, date and day setting or with a program setting.

㊵ 12/24 HR. Display Selector Key (12/24 HR.)
Every time this key is depressed, the display alternates between AM/PM 12 hours and 24 hours.

㊶ Hour/Month Up, Down Keys (HR./MO. UP, DOWN)
Used to adjust the hours and months.
For details, refer to the section on setting the present time and setting the day and date.

㊷ Minute/Date Up, Down Keys (MIN./DATE UP, DOWN)
Used to adjust the minutes and date.
For details, refer to the section on setting the present time and setting the day and date.

㊸ Channel Up, Down Keys (CH UP, DOWN)
Used for program setting. The set channel is displayed on the right of the program time display and so depress these keys until the desired channel is indicated.

㊹ Day Reciprocal Key (DAY RECIPR.)
Used when setting a program for 6 days in a week with 1 day skipped or for 4 days with 2 days in the week (they do not have to follow on) skipped.

㊺ One Time Key (ONE TIME)
Depress with a one time program setting. The day display "⟲" (repeat) mark is erased, the on/off program operation is performed once only at the designated time on the designated day, and the program is set off continuously thereafter.

㊻ Day Memory Key (DAY MEMORY)
Used with program setting to set two days and every day except two (they do not have to follow on). (Refer to the section on programming.)

㊼ Program Clear Key (PROG. CLR)
Used to clear a set program. When the program mode selector is set to "PROG. SET", the program review key is depressed and this key is depressed when the program to be erased is indicated on the display, the display will be erased and the program will be cleared.

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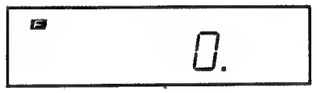

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5.DISASSEMBLY INSTRUCTIONS

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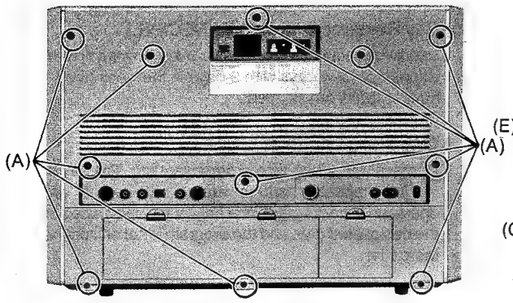


Fig. 2

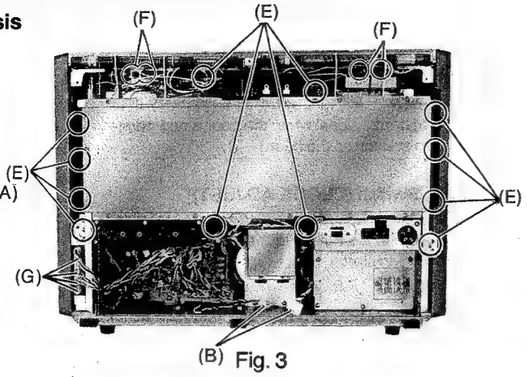


Fig. 3

(RZZ0401P)

Fig. 4

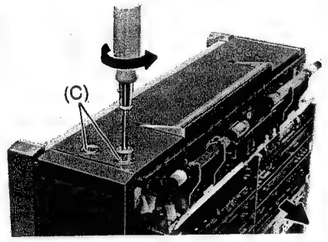
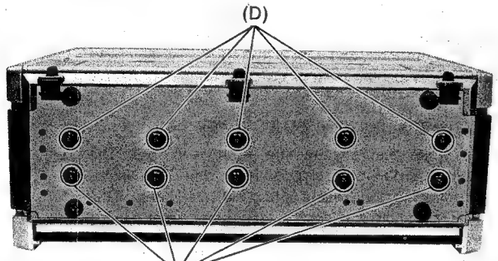


Fig. 4-1



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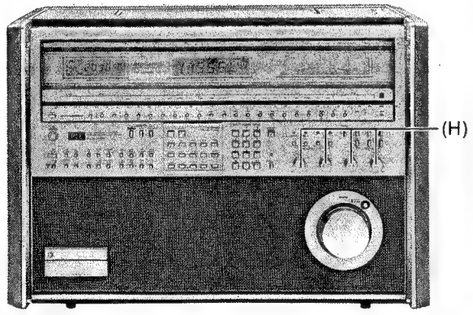

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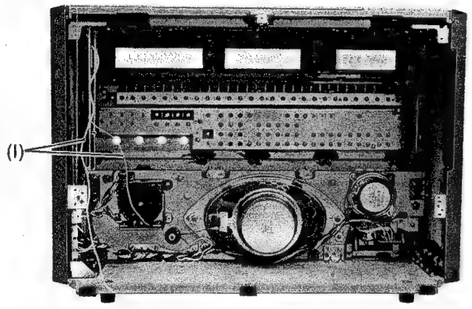

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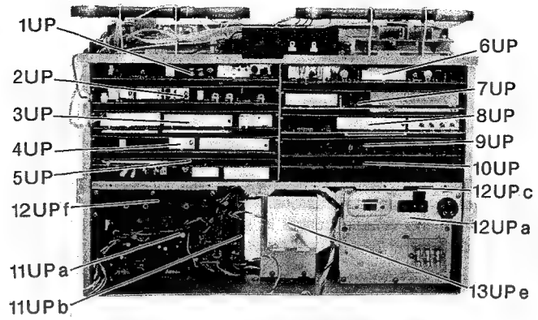
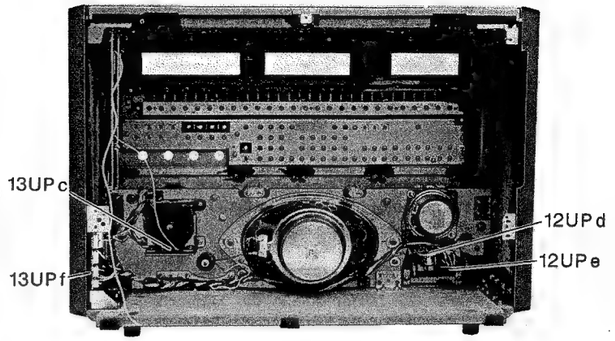
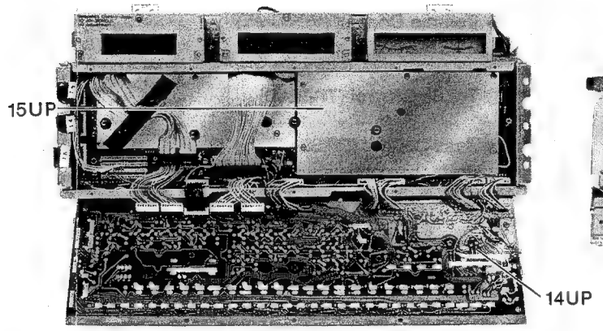
5		Red Screw (3×8) ..... (E)×12	3
6		Red Screw (4×12) ..... (F)×4	3
7		Extend the antenna.	
8		Lower the handle	
9		Socket (CN42~45) ..... (G)×4	3
10		Knob ..... (H)×4	6
11		Remove the chassis in the direction of arrow.	4-1
12		Antenna Socket ..... (I)×2	7

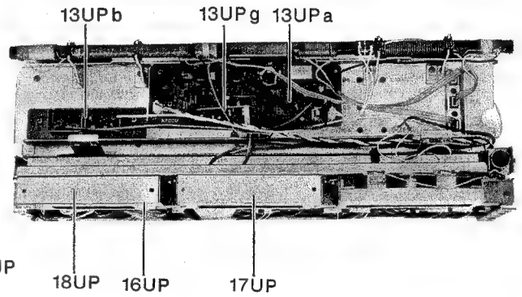
*1. Using the repair tool (RZZ0401P) shown in Fig. 4, remove the antenna holder.
*2. When putting the chassis in a box, check the position of the antenna and the handle.

5-2. ■ Location of Printed Circuit Board









PC Board	Main Circuitry
1 UP	LW, MW, SW1—RF
2 UP	FM RF IF DET, METER
3 UP	SW2~5 BPF, RF~IF
4 UP	LW, MW, SW1—VCO, Xtal OSC, MIX
5 UP	IF, DET, BPF, SSB, AM METER
6 UP	2nd PLL, VCO, MIX
7 UP	SW2~5, FM VCO, MIX, Muting
8 UP	1st, 2nd PLL, Control
9 UP	Radio Control-2
10 UP	Radio Control-1, μcom Block
11 UPa	AF AMP, Constant Voltage Power Supply
11 UPb	AF AMP, Constant Voltage Power Supply
12 UPa	Power Supply
12 UPb	Back up, Timer Out, Connector
12 UPc	EXT DC IN
12 UPd	Headphone
12 UPe	EP, Rec Out
12 UPf	AF Filter
13 UPa	Antenna
13 UPb	Antenna
13 UPc	Tuning
13 UPd	Tuning Speed Selector
13 UPe	DC-DC CONV
13 UPf	Connector
13 UPg	Whip BPF
14 UP	Key Board
15 UP	Common
16 UP	Clock
17 UP	Frequency Display
18 UP	Common

5-6 ■ Key Board (14 UP)

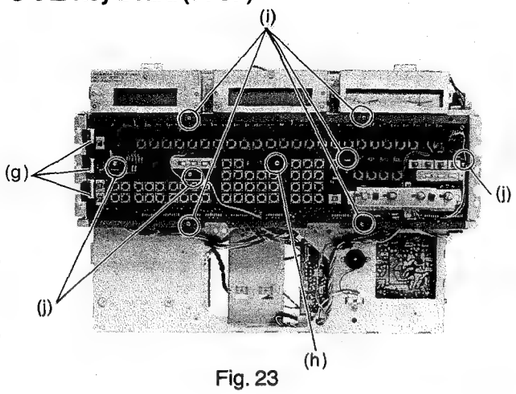


Fig. 23

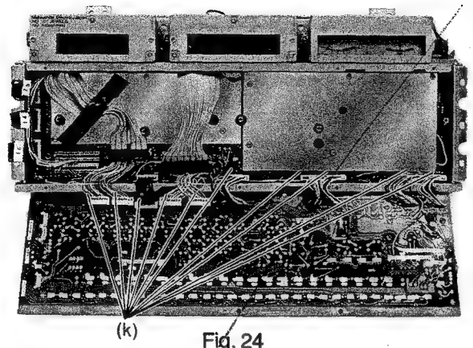


Fig. 24

38	Key Board (14 UP)	Stay Shaft ..... (e)×1	21
39		Screw (3×6) ..... (f)×6	21
40		Socket (CN13~15) ..... (g)×3	23
41		Stay Shaft ..... (h)×1	23
42		Screw (3×6) ..... (i)×5	23
43		Screw (3×6) ..... (j)×3	23
44		Socket ..... (k)×10	24

5-7. ■ Common Board (15 UP)

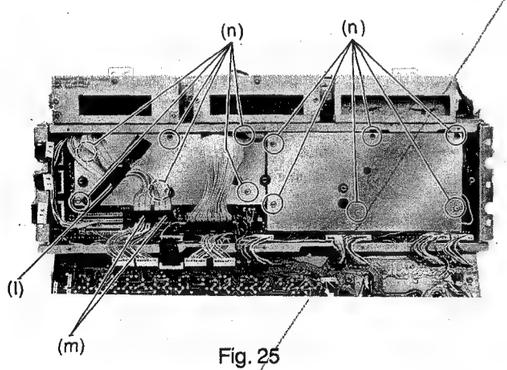


Fig. 25

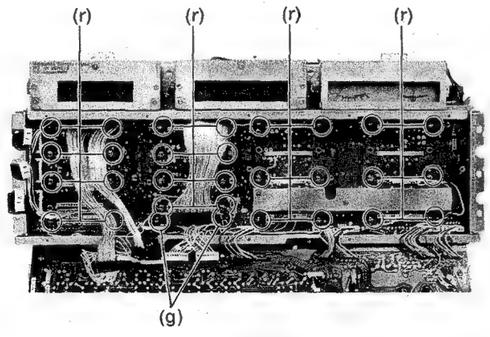


Fig. 26

45	Common Board (15 UP) *6	Tape ..... (l)×1	25
46		Socket (CS100, 101) ..... (m)×2	25
47		Screw (3×4) ..... (n)×12	25
48		Remove the circuit board 1~10 UP, in the same way of 22~28.	—
49		Screw (3×12) ..... (g)×2	26
50		Screw (2.6×12) ..... (r)×28	26

*6. To remove the 15 UP completely, remove or loosen the socket and lead wire projecting from the 15 UP.

5-8. ■ Tuning Block (13 UPc) & Headphone (12 UPd), EP, Rec Out (12 UPe) Jack Board

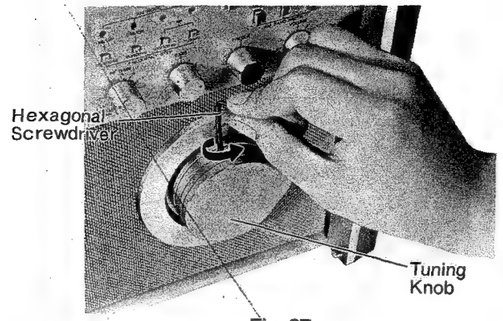


Fig. 27

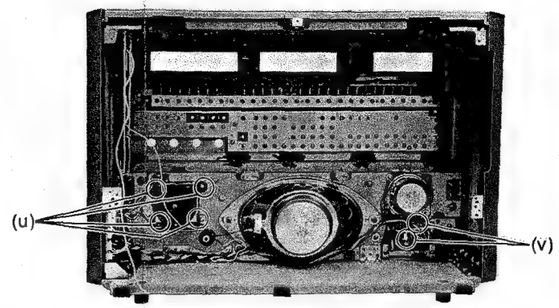


Fig. 28

51	Tuning Knob & Tuning Block (13 UPc)	Tuning Knob Screw (4×5) ..... ❶×2	27, 29
52		Tuning Knob	27
53		Screw (3×12) ..... (u)×4	28
54	Headphone (12 UPd), EP, Rec Out (12 UPe) Jack Board	Screw (3×10) ..... (v)×2	28

5-9. ■ Button, Handle, Handle Mechanism Block, Jack Cover, Front Panel & Indicating Plate

55	Button (w)	Screw (3×10) ..... ⊗×10	29, 30
56	Button (y)	Screw (2.3×10) ..... Ⓐ ×5	29, 30
57	Handle	Screw (3×16) ..... Ⓑ ×6	29
58		Screw (3×6) ..... Ⓒ ×1	29
59		Spring & Stopper ..... Ⓓ, Ⓔ ×1	29
60		Screw (3×8) ..... Ⓕ ×2	29
61	Handle Mechanism, Block *7.	Screw (3×12) ..... Ⓖ ×2	29
62	Front Panel Jack Cover	Screw (3×8) ..... Ⓗ ×1	31
63		Screw (3×10) ..... Ⓘ ×2	31
64		Bracket ..... Ⓙ ×2	31
65		Badge (* 8) ..... Ⓚ ×1	31
66		Cover ..... Ⓛ ×1	31
67	Front Panel	Screw (3×16) ..... Ⓜ ×6	29
68	Indicating Plate	Screw (3×8) ..... Ⓝ ×5	29
69		Screw (2×8) ..... Ⓞ ×5	29

*7. When taking it apart refer to Fig. 29.
*8. Remove the National Panasonic badge by bending up the pins.

5-3. ■ Power Supply (12 UPa), EXT DC IN (12 UPc), DC-DC CONV (13 UPe), AF Filter (12 UPf) & AF AMP, Constant Voltage Power Supply (11 UPa, b) Circuit Boards

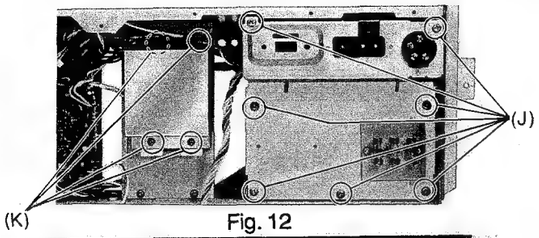


Fig. 12

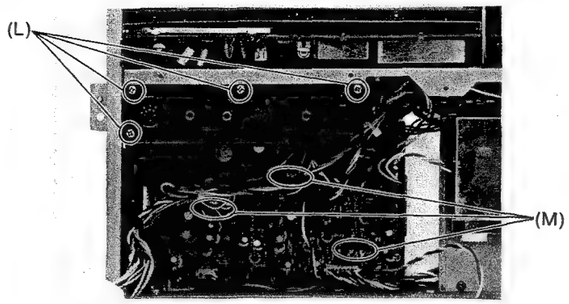


Fig. 13

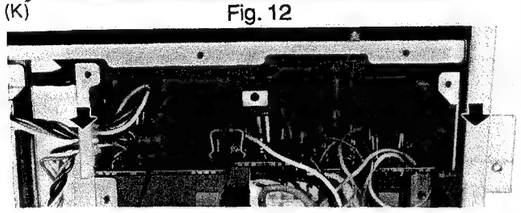


Fig. 14

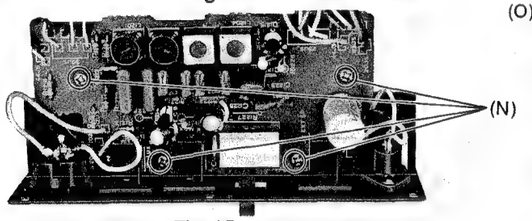


Fig. 15

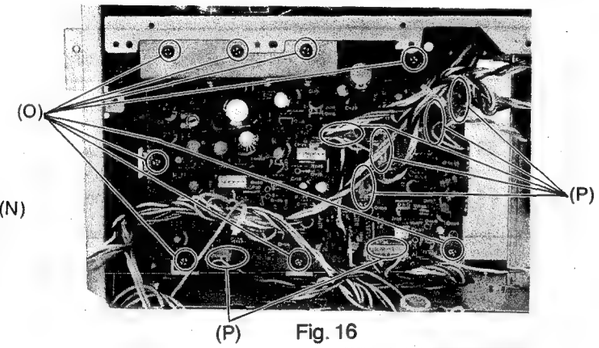


Fig. 16

13	Power Circuit Board	Screw (3×6) ..... (J)×7	12
14	(12 UPa, 12 UPc)	Remove the circuit board in the direction of arrow.	14
15	DC-DC CONV (13 UPe)	Screw (3×6) ..... (K)×4	12
16		Screw (3×6) ..... (L)×4	13
17	AF Filter Circuit Board (12 UPf)	Socket (CN20, 29, 30) ..... (M)×3	13
18		Screw (3×6) ..... (N)×4	15
19	AF AMP, Constant Voltage Power	Screw (3×6) ..... (O)×8	16
20	Supply Circuit Board (11 UPa, b)	Socket (CN21, 23~28) ..... (P)×7	16

5-4. ■ 1 UP~10 UP

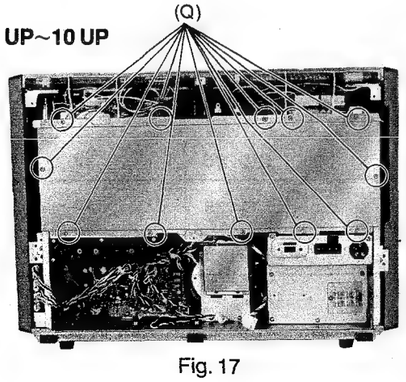


Fig. 17

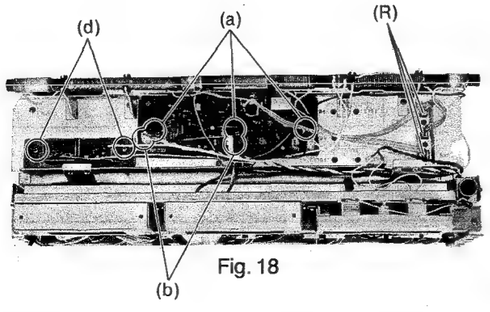


Fig. 18

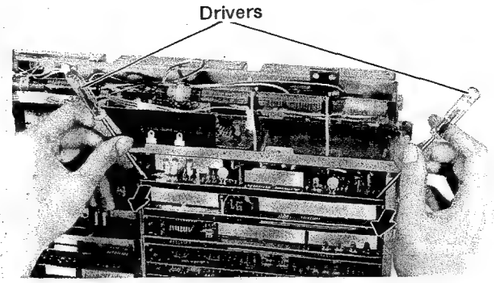


Fig. 19

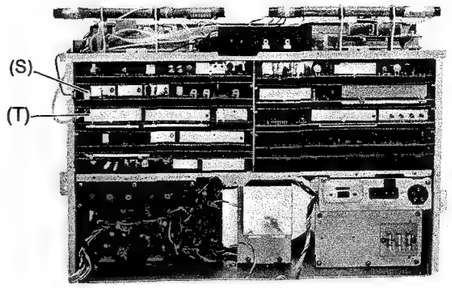


Fig. 20

21	Cover (1~10 UP)	Screw (3×6) ..... (Q)×12	17
22	1 UP *3	Socket (CN101, 102, 103) ..... (R)×3	18
23		Remove the circuit board with drivers in the direction of arrow.	19
24	2 UP *3	Remove in the same manner as no. 23.	19
25		Socket (CN4) ..... (S)×1	20
26	3 UP *3	Remove in the same manner as no. 23.	19
27		Socket (CN301) ..... (T)×1	20
28	4~10 UP *3	Remove in the same manner as no. 23.	19

*3. When inserting a printed circuit board, fit it into the channel provided in the chassis.

5-5. ■ Clock (16 UP, 18 UP), Frequency (17 UP), Antenna (13 UPa, b) Circuit Boards & Meter

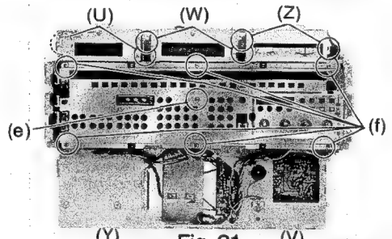


Fig. 21

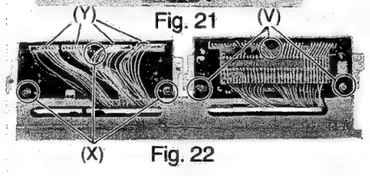


Fig. 22

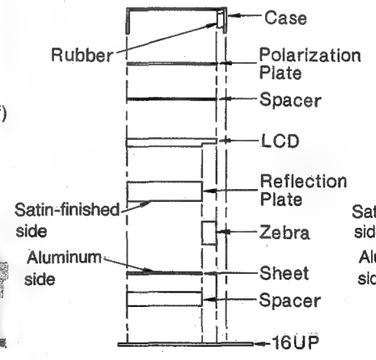


Fig. 22-1

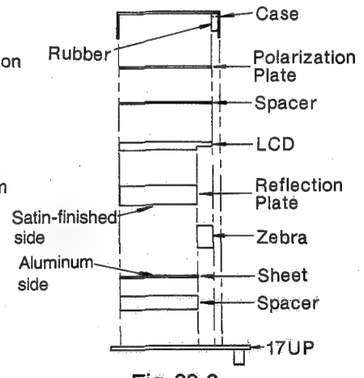


Fig. 22-2

29	Clock Circuit Board	Screw (3×6) ..... (U)×2	21
30	(16, 18 UP) & LCD *4	Screw (3×8) ..... (V)×3	22
31	Frequency Circuit Board	Screw (3×6) ..... (W)×2	21
32	(17 UP) & LCD *5	Screw (3×8) ..... (X)×3	22
33		Socket ..... (Y)×4	22
34	Meter	Screw (3×6) ..... (Z)×2	21
35	Antenna Circuit Board (13 UPa)	Screw (3×6) ..... (a)×3	18
36		Socket (CN31, 34) ..... (b)×2	18
37	Antenna Circuit Board (13 UPb)	Screw (3×6) ..... (d)×2	18

*4. To replace the clock LCD, refer to Fig. 22-1.
*5. To replace the frequency LCD, refer to Fig. 22-2.

5-3. ■ Power Supply (12 UPa), EXT DC IN (12 UPc), DC-DC CONV (13 UPe), AF Filter (12 UPf) & AF AMP, Constant Voltage Power Supply (11 UPa, b) Circuit Boards

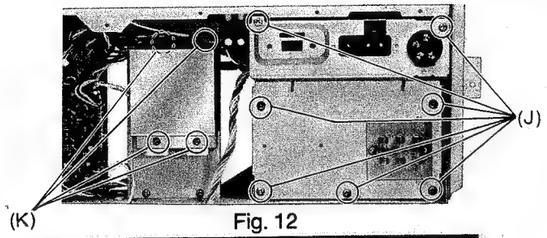


Fig. 12

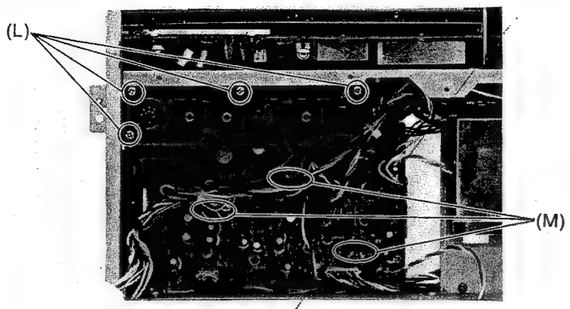


Fig. 13

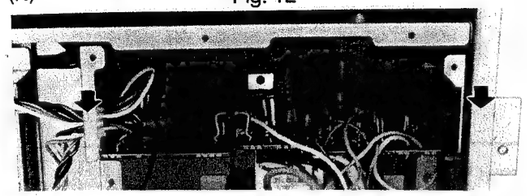


Fig. 14

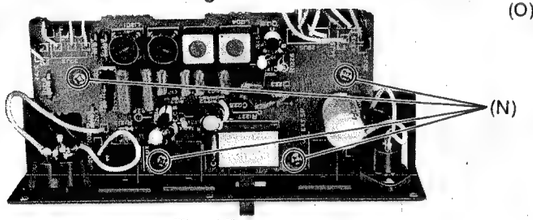


Fig. 15

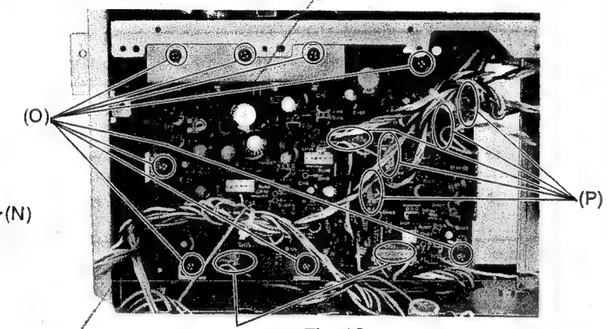


Fig. 16

13	Power Circuit Board	Screw (3×6) ..... (J)×7	12
14	(12 UPa, 12 UPc)	Remove the circuit board in the direction of arrow.	14
15	DC-DC CONV (13 UPe)	Screw (3×6) ..... (K)×4	12
16		Screw (3×6) ..... (L)×4	13
17	AF Filter Circuit Board (12 UPf)	Socket (CN20, 29, 30) ..... (M)×3	13
18		Screw (3×6) ..... (N)×4	15
19	AF AMP, Constant Voltage Power	Screw (3×6) ..... (O)×8	16
20	Supply Circuit Board (11 UPa, b)	Socket (CN21, 23~28) ..... (P)×7	16

5-4. ■ 1 UP~10 UP

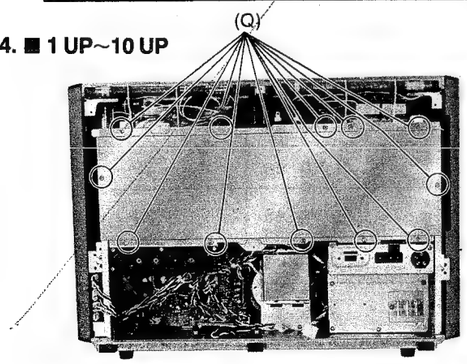


Fig. 17

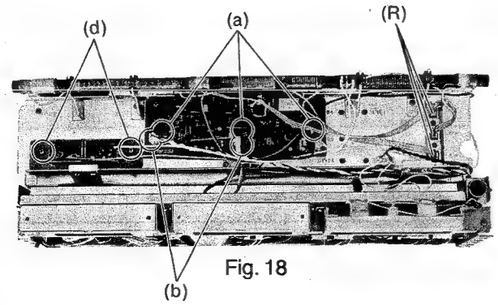


Fig. 18

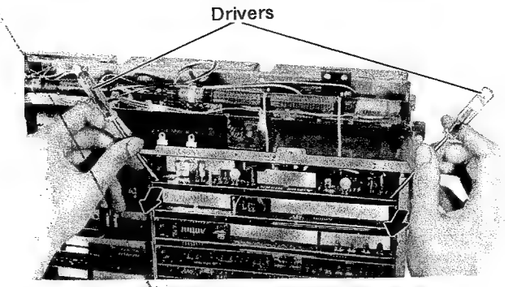


Fig. 19

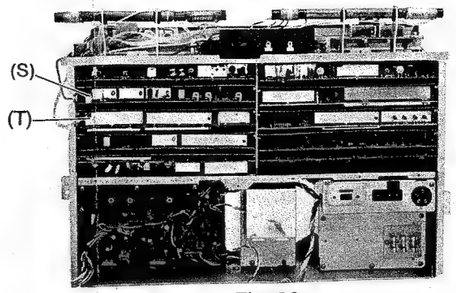


Fig. 20

21	Cover (1~10 UP)	Screw (3×6) ..... (Q)×12	17
22	1 UP *3	Socket (CN101, 102, 103) ..... (R)×3	18
23		Remove the circuit board with drivers in the direction of arrow.	19
24	2 UP *3	Remove in the same manner as no. 23.	19
25		Socket (CN4) ..... (S)×1	20
26	3 UP *3	Remove in the same manner as no. 23.	19
27		Socket (CN301) ..... (T)×1	20
28	4~10 UP *3	Remove in the same manner as no. 23.	19

*3. When inserting a printed circuit board, fit it into the channel provided in the chassis.

5-5. ■ Clock (16 UP, 18 UP), Frequency (17 UP), Antenna (13 UPa, b) Circuit Boards & Meter

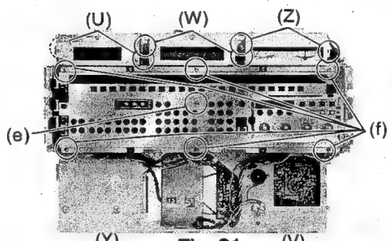


Fig. 21

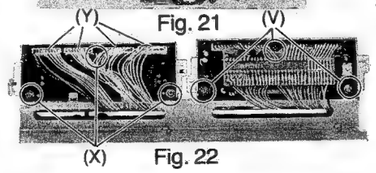


Fig. 22

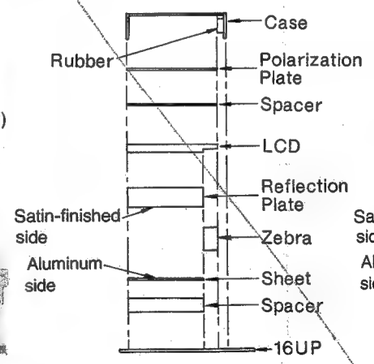


Fig. 22-1

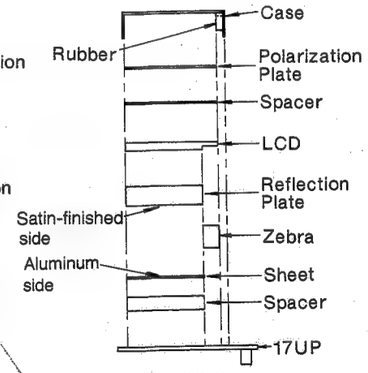


Fig. 22-2

29	Clock Circuit Board	Screw (3×6) ..... (U)×2	21
30	(16, 18 UP) & LCD *4	Screw (3×8) ..... (V)×3	22
31	Frequency Circuit Board	Screw (3×6) ..... (W)×2	21
32	(17 UP) & LCD *5	Screw (3×8) ..... (X)×3	22
33		Socket ..... (Y)×4	22
34	Meter	Screw (3×6) ..... (Z)×2	21
35	Antenna Circuit Board (13 UPa)	Screw (3×6) ..... (a)×3	18
36		Socket (CN31, 34) ..... (b)×2	18
37	Antenna Circuit Board (13 UPb)	Screw (3×6) ..... (d)×2	18

*4. To replace the clock LCD, refer to Fig. 22-1.
*5. To replace the frequency LCD, refer to Fig. 22-2.

5-6 ■ Key Board (14 UP)

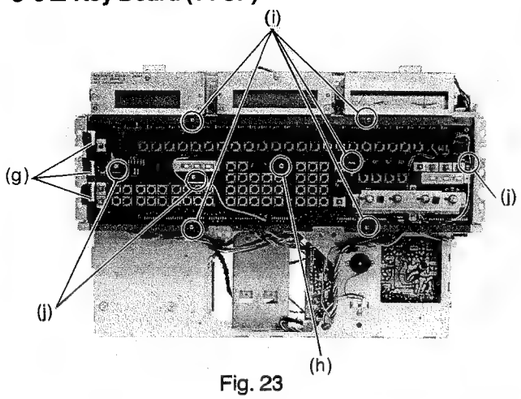


Fig. 23

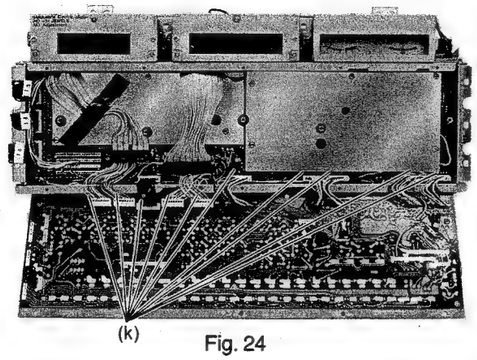


Fig. 24

38	Key Board (14 UP)	Stay Shaft ..... (e)×1	21
39		Screw (3×6) ..... (f)×6	21
40		Socket (CN13~15) ..... (g)×3	23
41		Stay Shaft ..... (h)×1	23
42		Screw (3×6) ..... (i)×5	23
43		Screw (3×6) ..... (j)×3	23
44		Socket ..... (k)×10	24

5-7. ■ Common Board (15 UP)

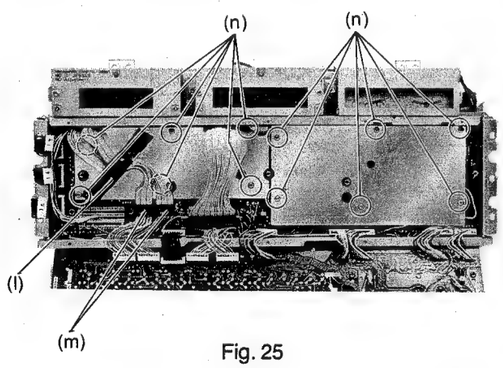


Fig. 25

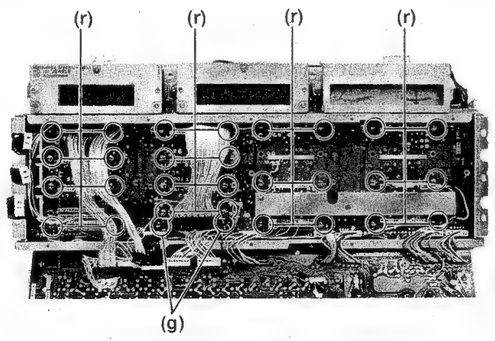


Fig. 26

45	Common Board (15 UP) *6	Tape ..... (l)×1	25
46		Socket (CS100, 101) ..... (m)×2	25
47		Screw (3×4) ..... (n)×12	25
48		Remove the circuit board 1~10 UP, in the same way of 22~28.	—
49		Screw (3×12) ..... (g)×2	26
50		Screw (2.6×12) ..... (r)×28	26

*6. To remove the 15 UP completely, remove or loosen the socket and lead wire projecting from the 15 UP.

5-8. ■ Tuning Block (13 UPc) & Headphone (12 UPd), EP, Rec Out (12 UPe) Jack Board

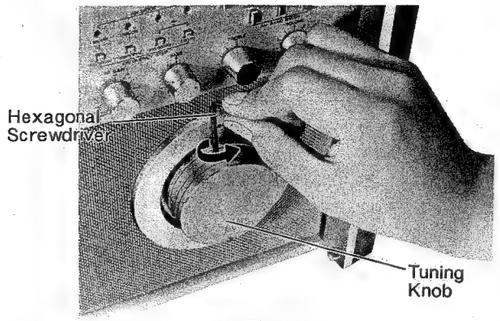


Fig. 27

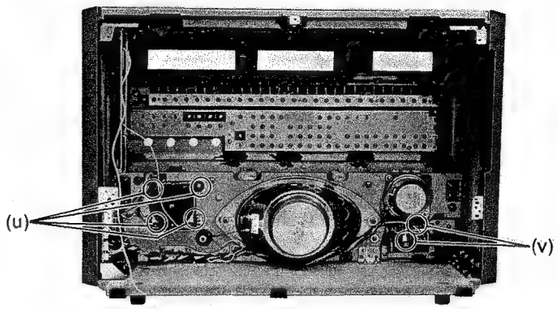


Fig. 28

51	Tuning Knob & Tuning Block (13 UPc)	Tuning Knob Screw (4×5) ..... ❶×2	27, 29
52		Tuning Knob	27
53		Screw (3×12) ..... (u)×4	28
54	Headphone (12 UPd), EP, Rec Out (12 UPe) Jack Board	Screw (3×10) ..... (v)×2	28

5-9. ■ Button, Handle, Handle Mechanism Block, Jack Cover, Front Panel & Indicating Plate

55	Button (w)	Screw (3×10) ..... ⊗×10	29, 30
56	Button (y)	Screw (2.3×10) ..... Ⓐ ×5	29, 30
57	Handle	Screw (3×16) ..... Ⓑ ×6	29
58		Screw (3×6) ..... Ⓒ ×1	29
59		Spring & Stopper ..... Ⓓ, Ⓔ ×1	29
60		Screw (3×8) ..... Ⓕ ×2	29
61	Handle Mechanism, Block *7.	Screw (3×12) ..... Ⓖ ×2	29
62	Front Panel Jack Cover	Screw (3×8) ..... Ⓗ ×1	31
63		Screw (3×10) ..... Ⓘ ×2	31
64		Bracket ..... Ⓙ ×2	31
65		Badge (* 8) ..... Ⓚ ×1	31
66		Cover ..... Ⓛ ×1	31
67	Front Panel	Screw (3×16) ..... Ⓜ ×6	29
68	Indicating Plate	Screw (3×8) ..... Ⓝ ×5	29
69		Screw (2×8) ..... Ⓞ ×5	29

*7. When taking it apart refer to Fig. 29.
*8. Remove the National Panasonic badge by bending up the pins.

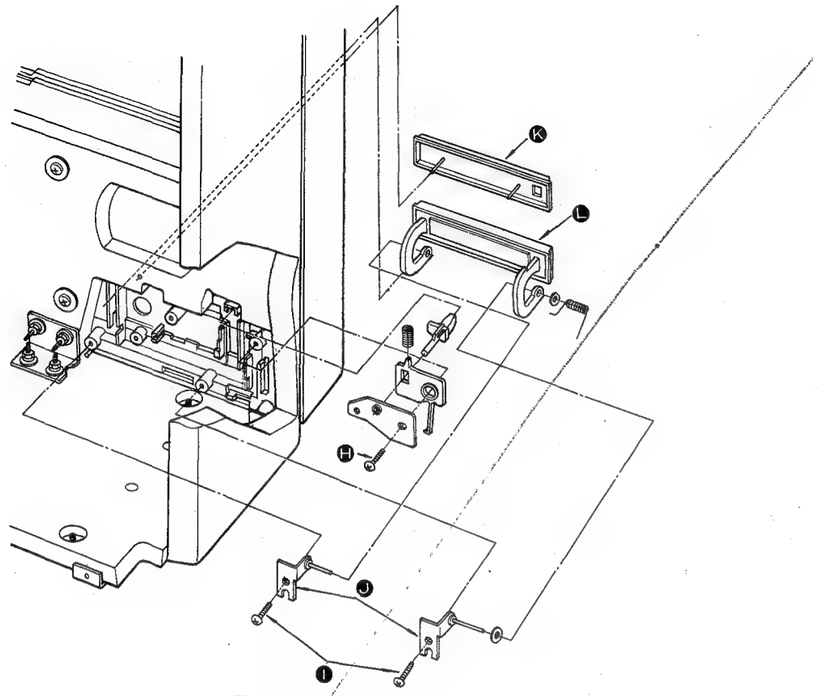


Fig. 31

5-10. ■ Tuning Block

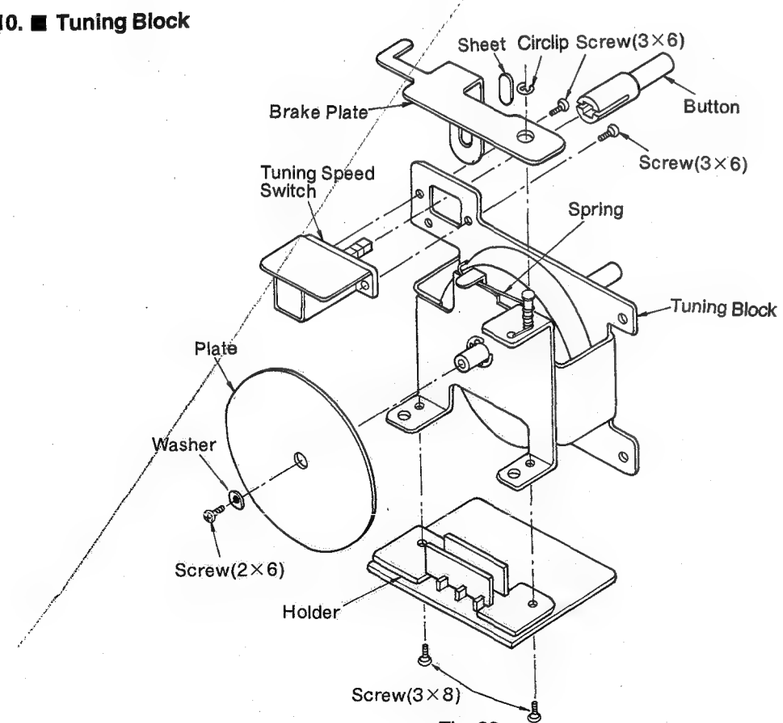


Fig. 32

5-11. ■ Connector Positions

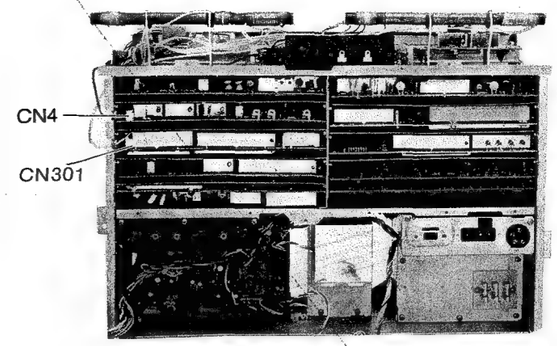


Fig. 33

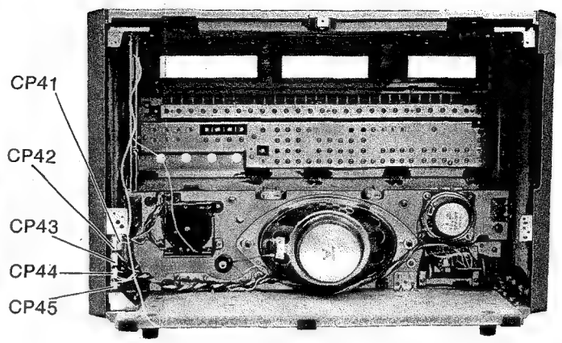


Fig. 34

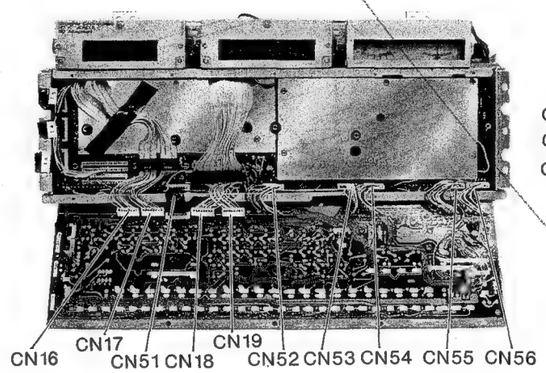


Fig. 35

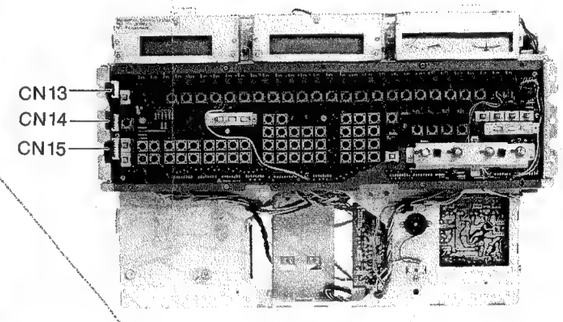


Fig. 36

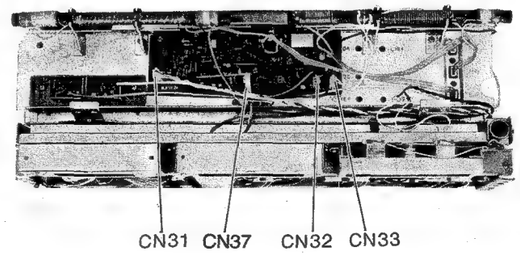


Fig. 37

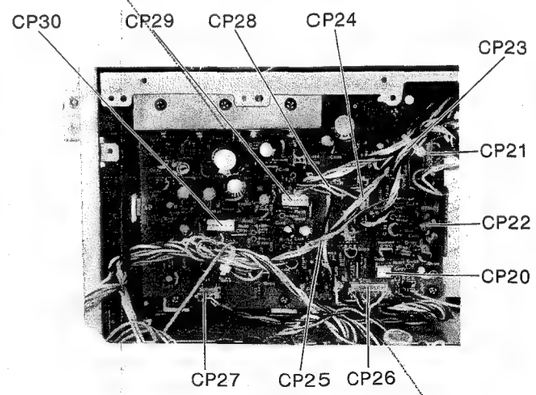
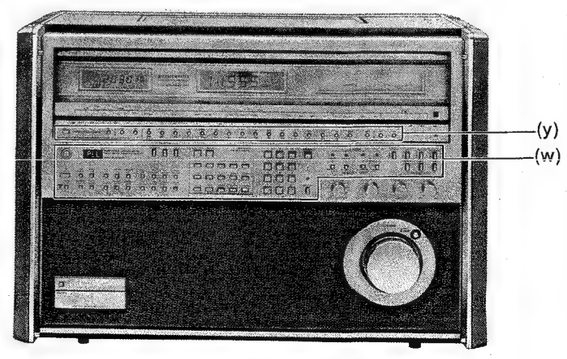


Fig. 38

Fig. 29

B3



B4

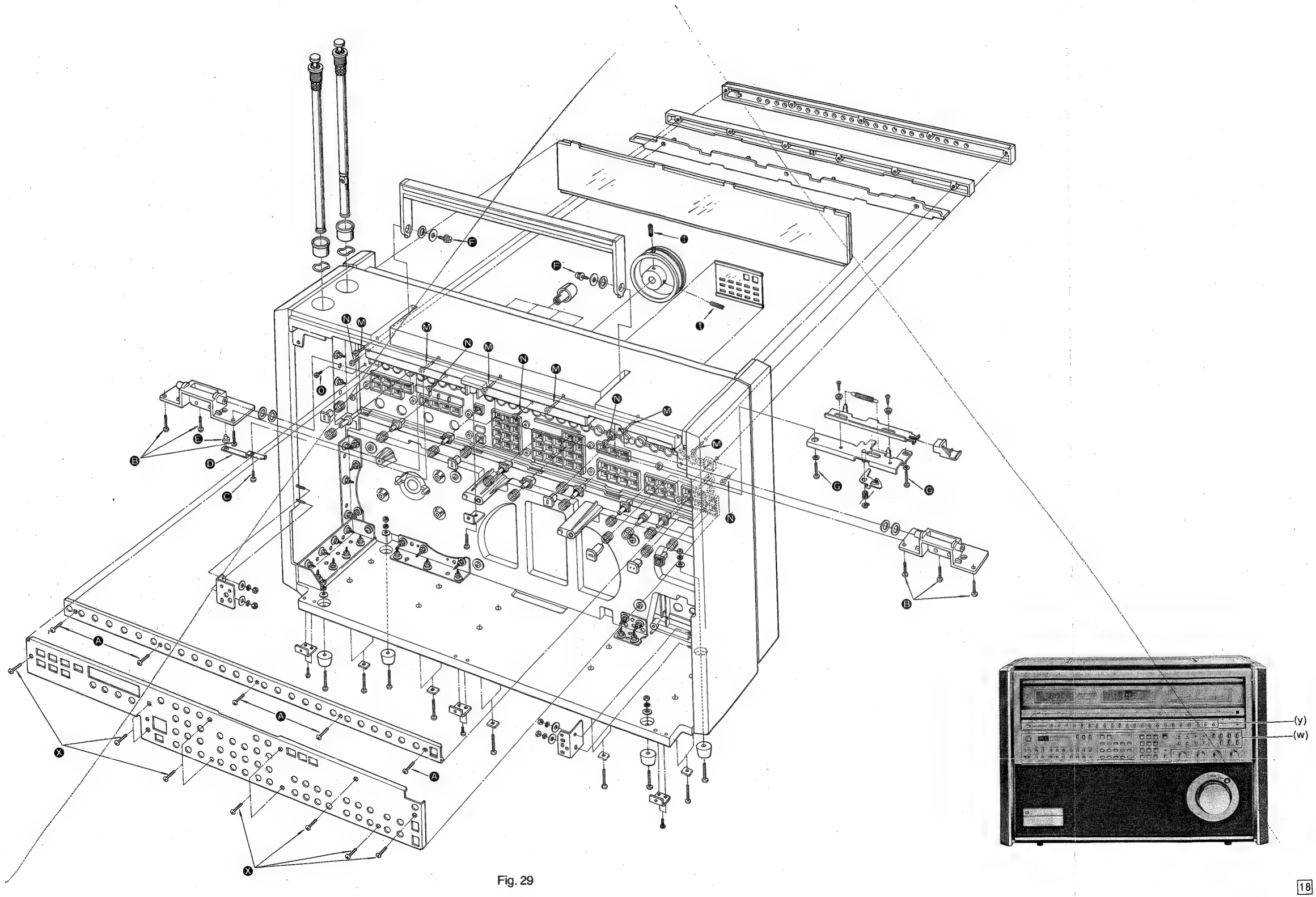


Fig. 29

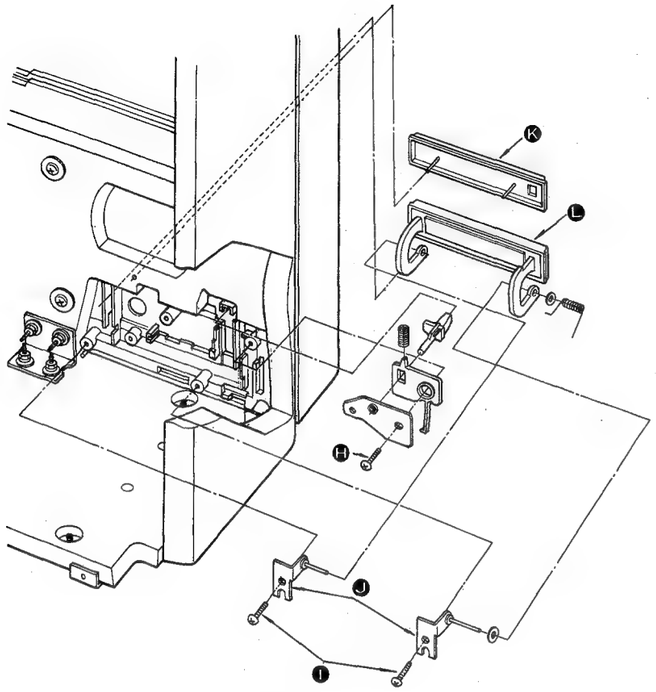


Fig. 31

5-10. ■ Tuning Block

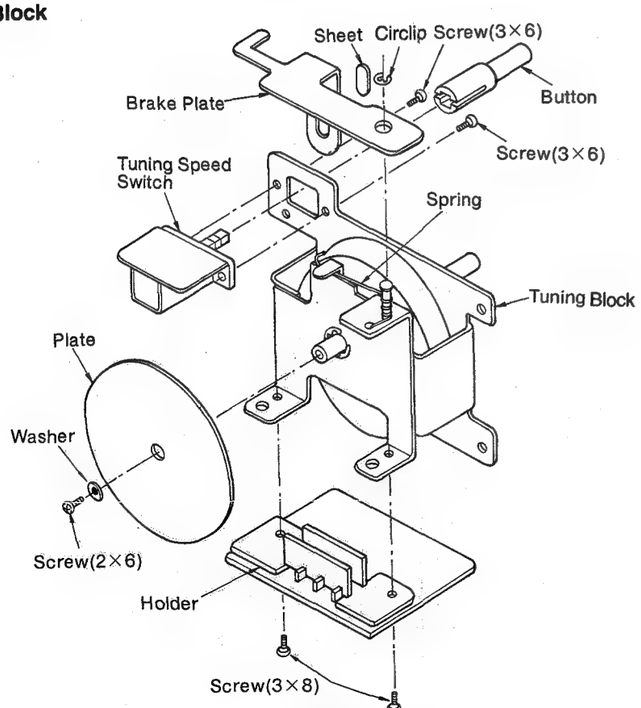


Fig. 32

5-11. ■ Connector Positions

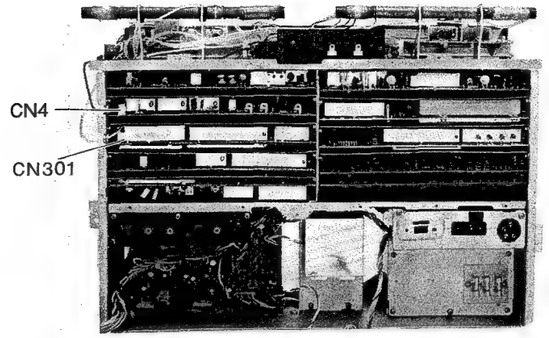


Fig. 33

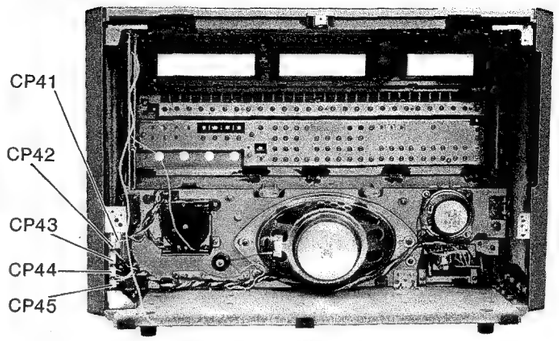


Fig. 34

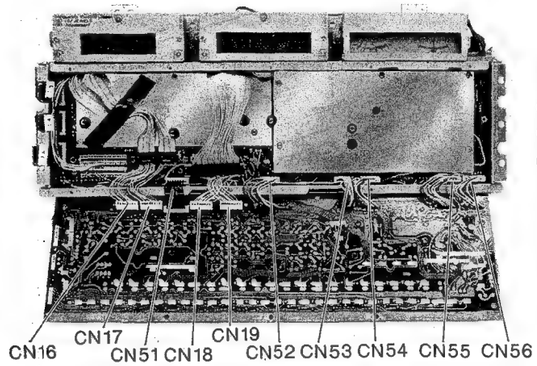


Fig. 35

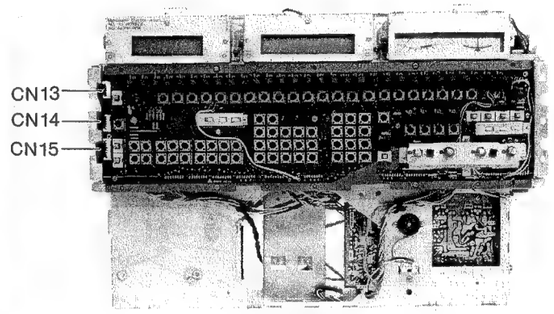


Fig. 36

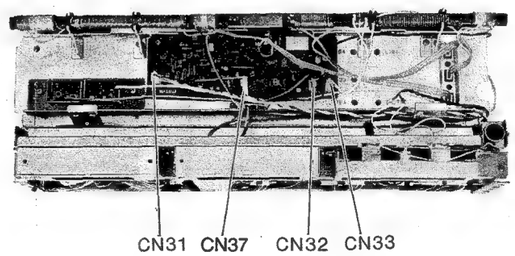


Fig. 37

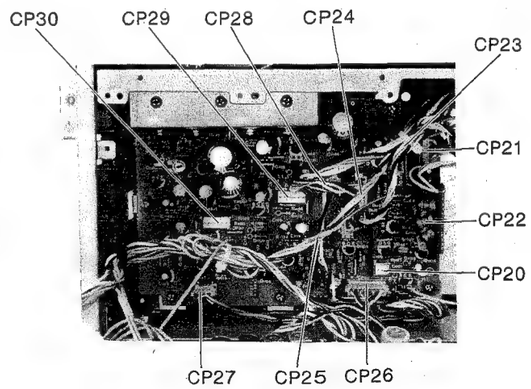


Fig. 38

6. FM/LW/MW/SW World-wide Receiver With Phase-Locked Loop Synthesizer BLOCK DIAGRAM-MODEL RF-9000

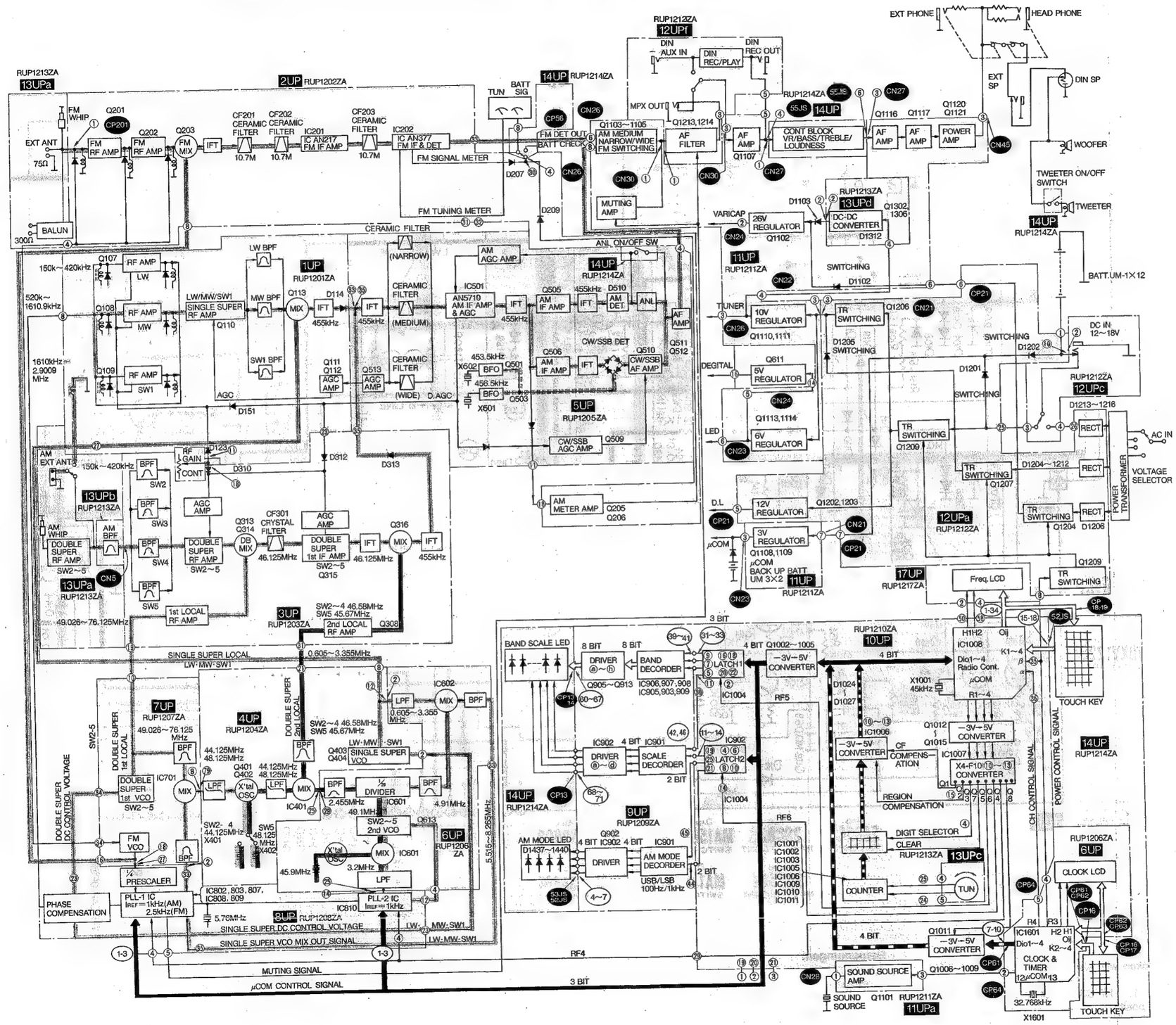
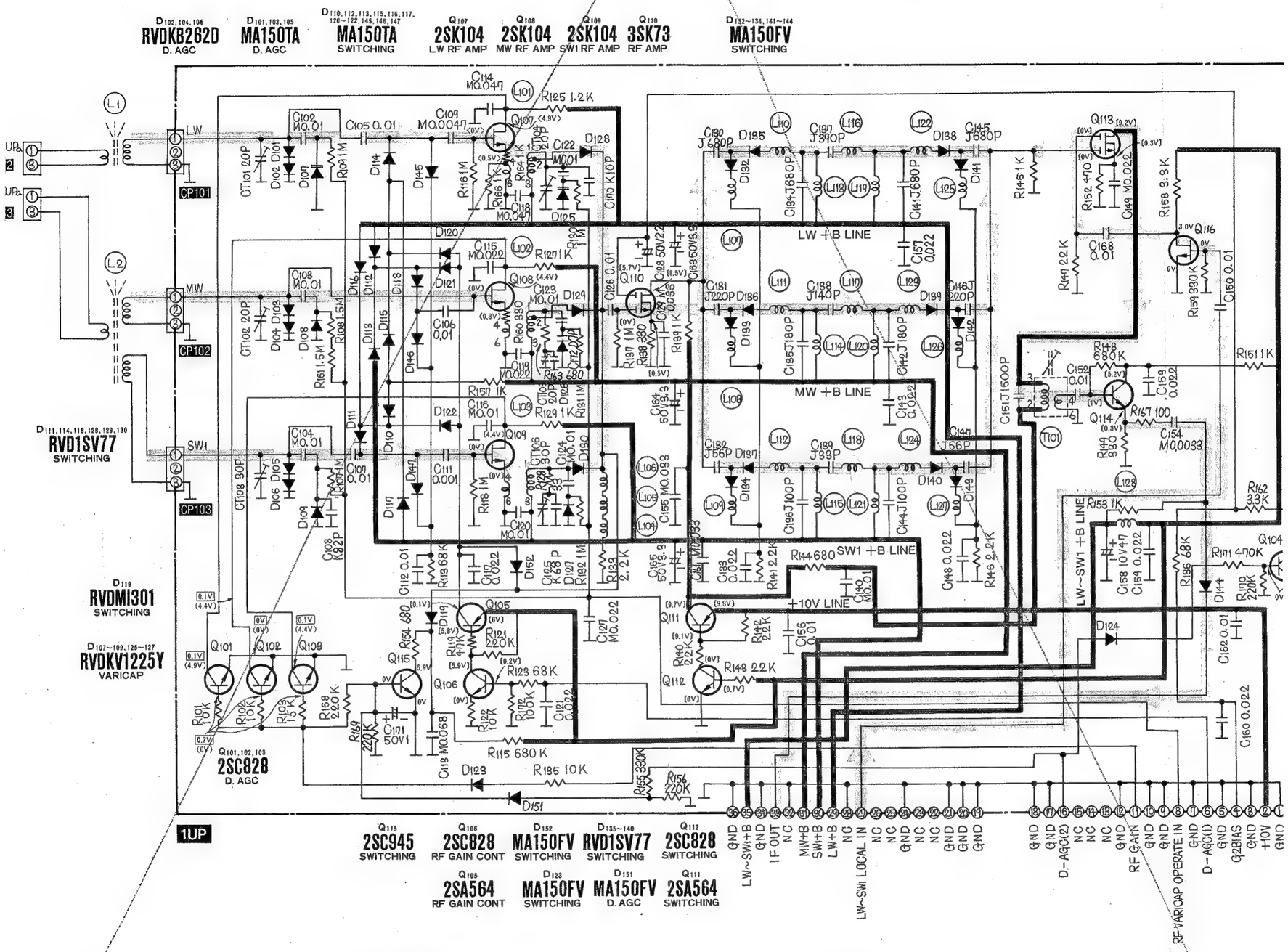


Fig. 39

SCHEMATIC DIAGRAM (1 UP) . . . LW, MW, SW1—RF



surements are taken with electronics voltmeter
minal of battery.
MIN position, ( ) . . . RF GAIN MAX position,
n, 《 》. . . MW position,
ion. 〖 〗. . . AM position.

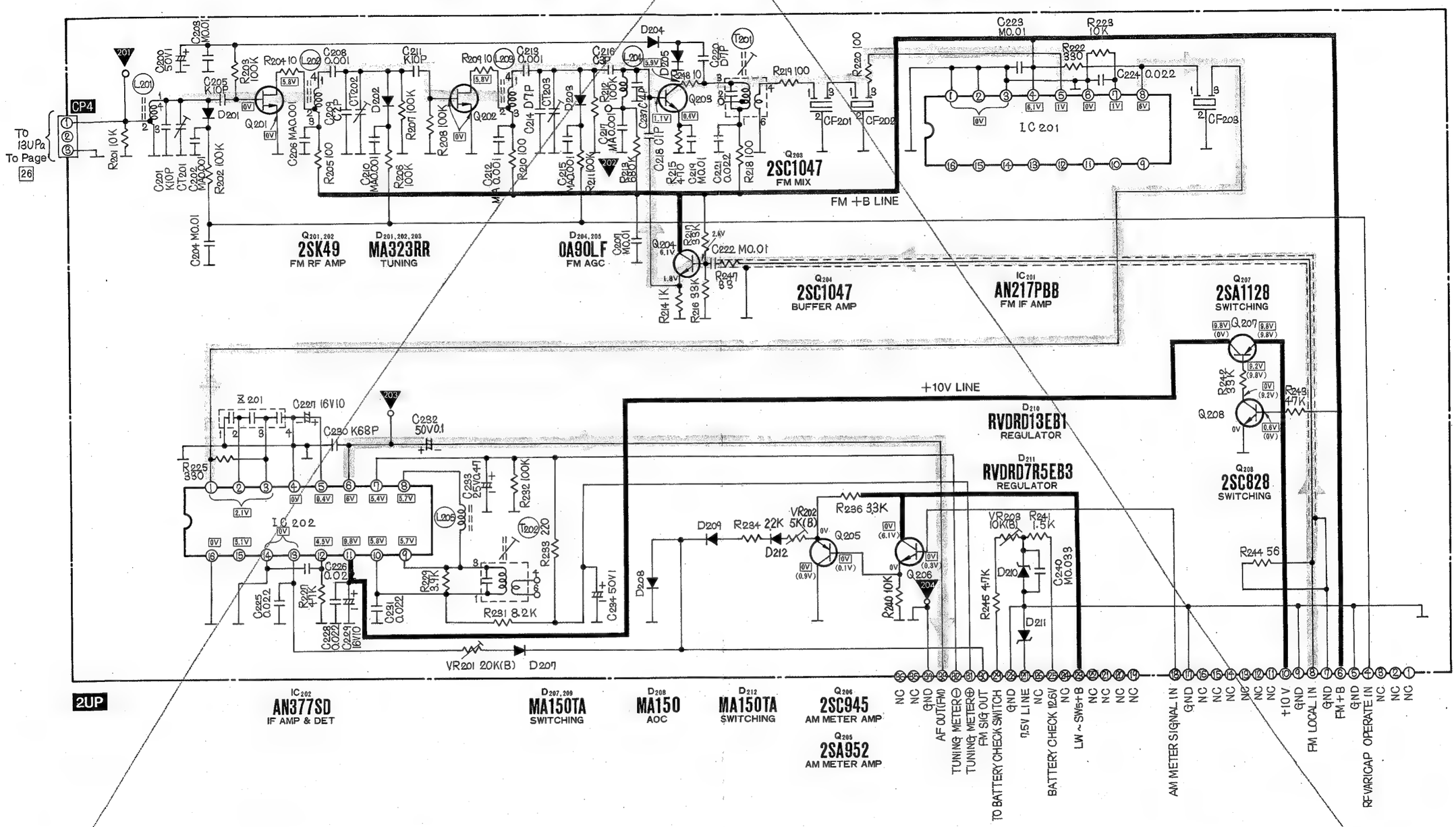
Bemerkungen:

1. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
   [ ] . . . HF-Verstärkungsregler auf „MIN"
   ( ) . . . HF-Verstärkungsregler auf „MAX"
   〈 〉. . . Stellung „LW", 《 》. . . Stellung „MW",
   [ ] . . . Stellung „KW 1". 〖 〗. . . Stellung „AM".

Remarque:

1. La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.
   [ ] . . . Position "MIN" de la commande de gain HF (RF GAIN),
   ( ) . . . Position "MAX" de la commande de gain HF (RF GAIN),
   〈 〉. . . Position GO, 《 》. . . Position PO,
   [ ] . . . Position OC1, 〖 〗. . . Position AM.

SCHEMATIC DIAGRAM (2 UP) . . . FM RF IF DET & METER CIRCUIT



Notes:

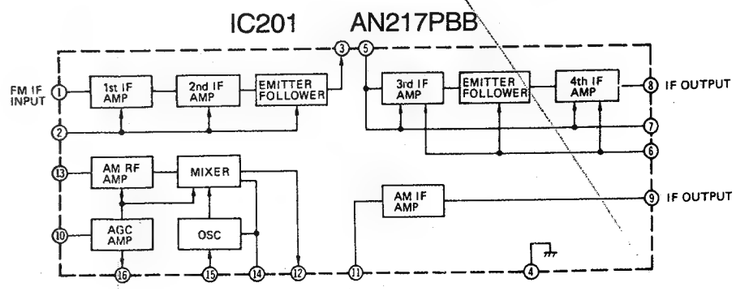
1. The mark (▼) shows test point, e.g. ▼=test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ] . . . FM position, ( ) . . . AM position.
3. VR201 . . . FM signal meter adjustment, VR202 . . . AM signal meter adjustment, VR203 . . . Battery check adjustment.

Bemerkungen:

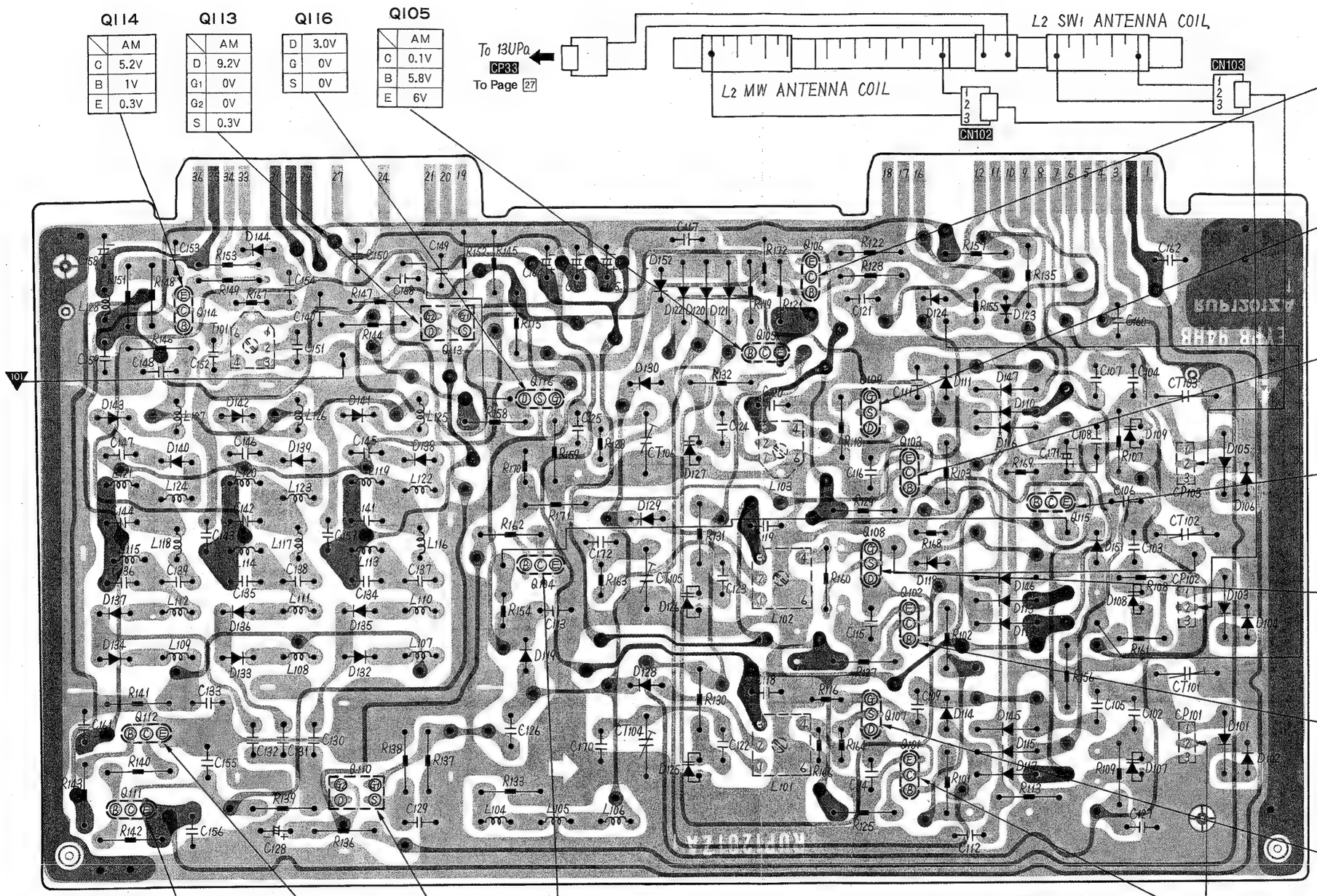
1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B: ▼= Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
   [ ] . . .Stellung „UKW", ( ) . . . Stellung „AM".
3. VR201 . . . RW zur Einstellung der FM-Signalstärkeanzeige.
   VR202 . . . RW zur Einstellung der AM-Signalstärkeanzeige.
   VR203 . . . RW zur Einstellung der Batterieanzeige.

Remarques:

1. La marque (▼) signale un point de vérification. EX.: ▼ =point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.
   [ ] Position FM, ( ) . . . Position AM.
3. VR201 . . . Réglage du Vu-mètre de signal FM,
   VR202 . . . Réglage du Vu-mètre de signal AM,
   VR203 . . . Commande de vérification des piles.



CIRCUIT BOARD WIRING VIEW (1 UP) . . . LW, MW, SW1—RF CIRCUIT



Q114

	AM
C	5.2V
B	1V
E	0.3V

Q113

	AM
D	9.2V
G1	0V
G2	0V
S	0.3V

Q116

D	3.0V
G	0V
S	0V

Q105

	AM
C	0.1V
B	5.8V
E	6V

Q106

	AM
C	5.9V
B	0.2V
E	0V

Q109

	SW1
D	4.4V
G	0V
S	0V

Q103

	RF GAIN MIN	RF GAIN MAX
C	0.1 V	4.4V
B	0.7V	0V
E	0V	0V

Q115

C	5.9V
B	0V
E	0V

Q108

	MW
D	4.4V
G	0V
S	0.3V

Q102

	RF GAIN MIN	RF GAIN MAX
C	0.1V	4.4V
B	0.7V	0V
E	0V	0V

Q107

	LW
D	4.9V
G	0V
S	0.5V

Q101

	RF GAIN MIN	RF GAIN MAX
C	0.1V	4.9V
B	0.7V	0V
E	0V	0V

Q111

	AM
C	9.7V
B	9.1V
E	9.8V

Q112

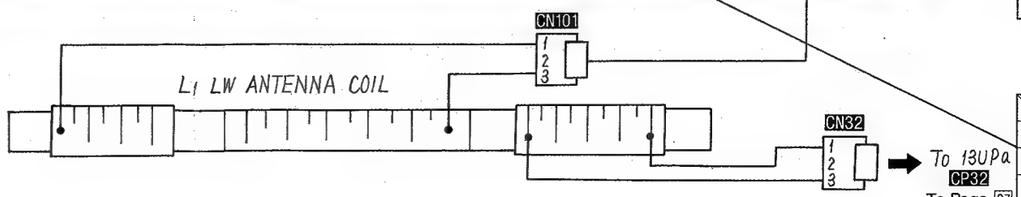
	AM
C	0V
B	0.7V
E	0V

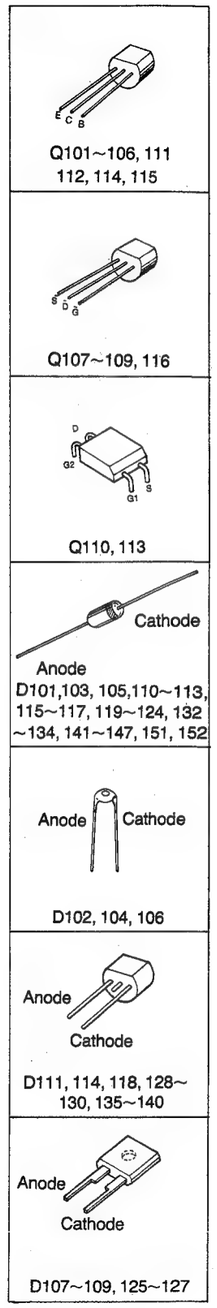
Q110

	AM
D	8.5V
G1	0V
G2	5.7V
S	0.5V

Q104

C	5.7V
B	0V
E	0V





6. FM/LW/MW/SW World-wide Receiver With Phase-Locked Loop Synthesizer BLOCK DIAGRAM-MODEL RF-9000

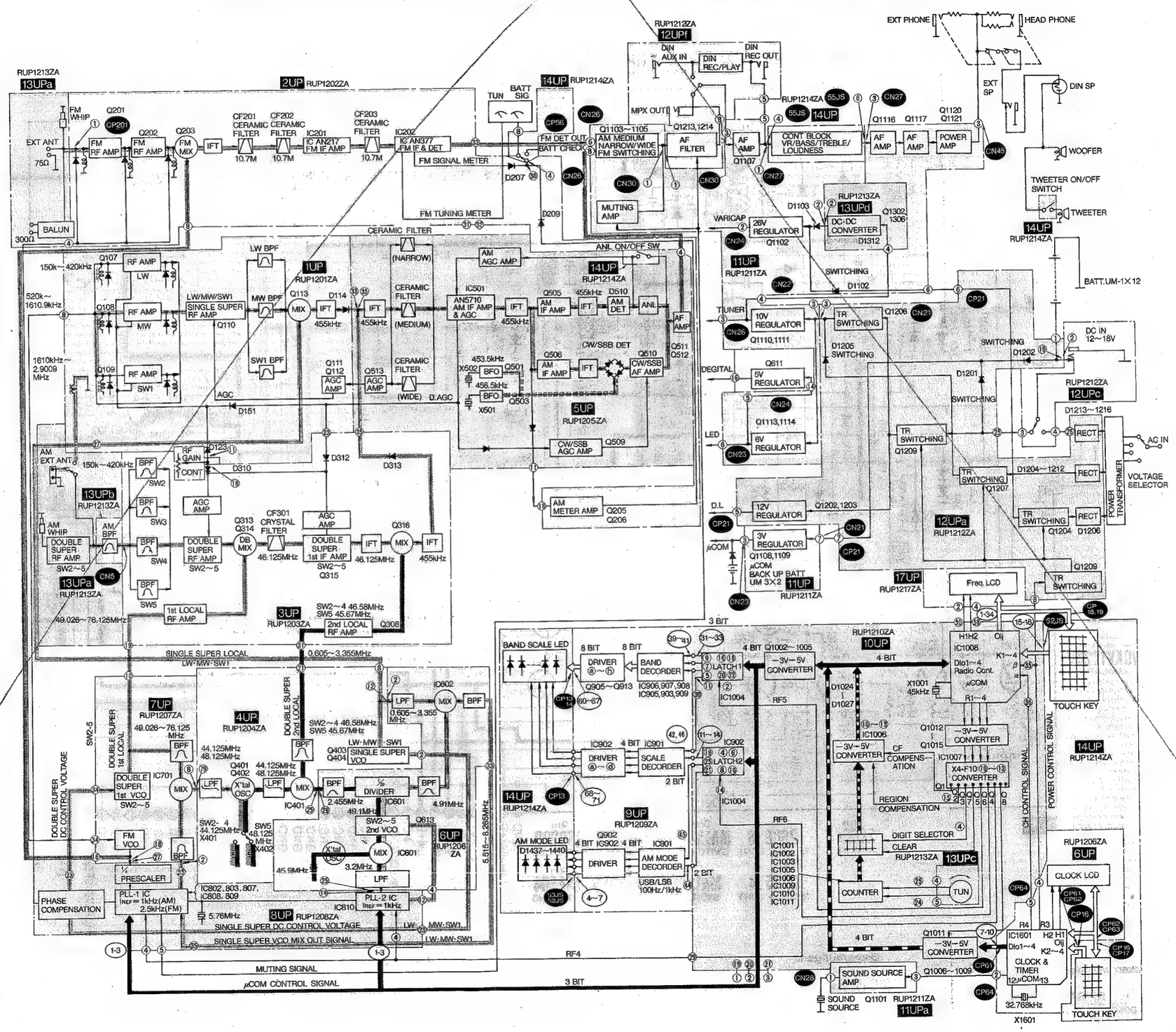
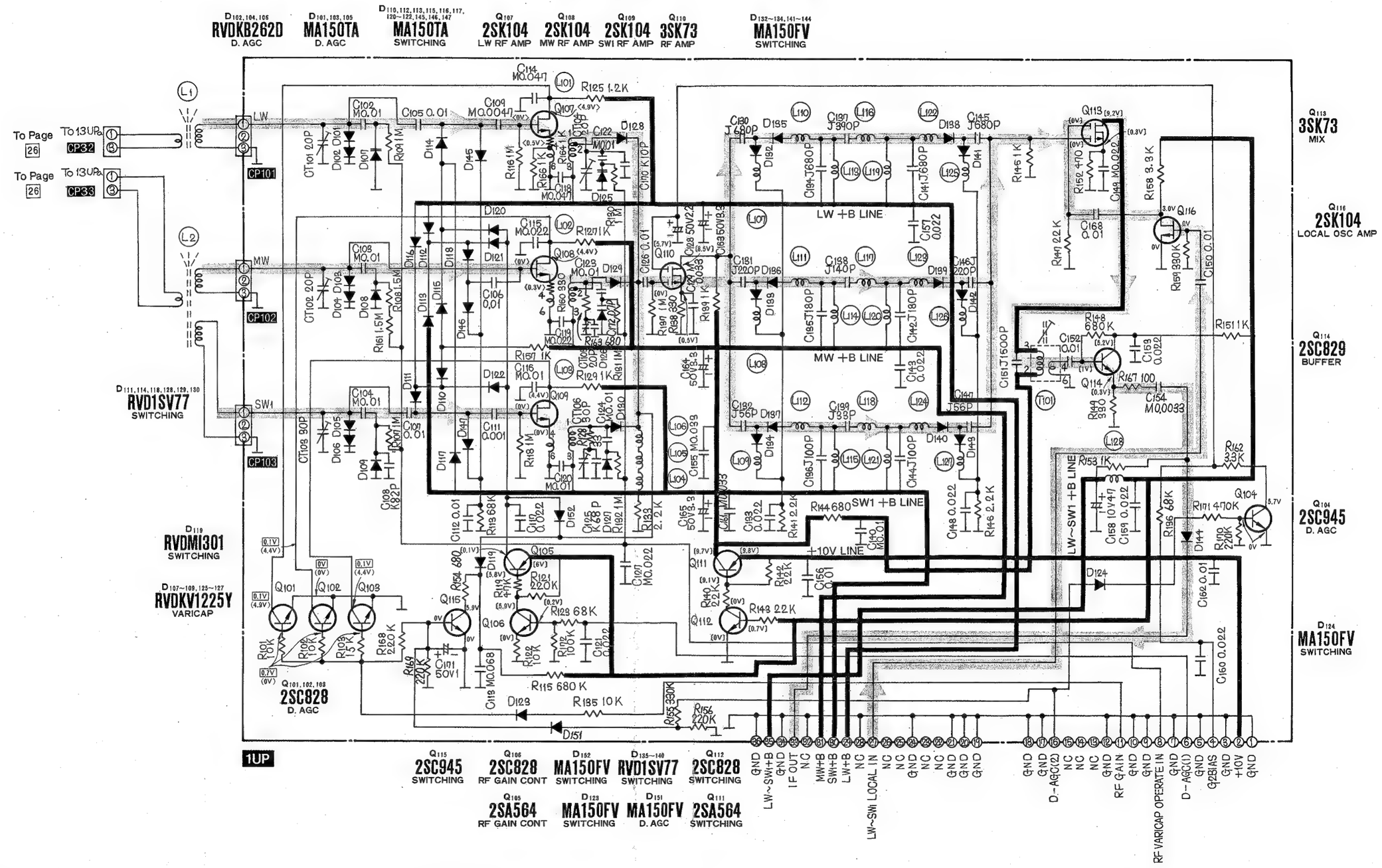


Fig. 39

SCHEMATIC DIAGRAM (1 UP) . . . LW, MW, SW1—RF



Note:

1. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ] . . . RF GAIN MIN position, ( ) . . . RF GAIN MAX position,
   < > . . . LW position, « » . . . MW position,
   [ ] . . . SW1 position. ⟦ ⟧ . . . AM position.

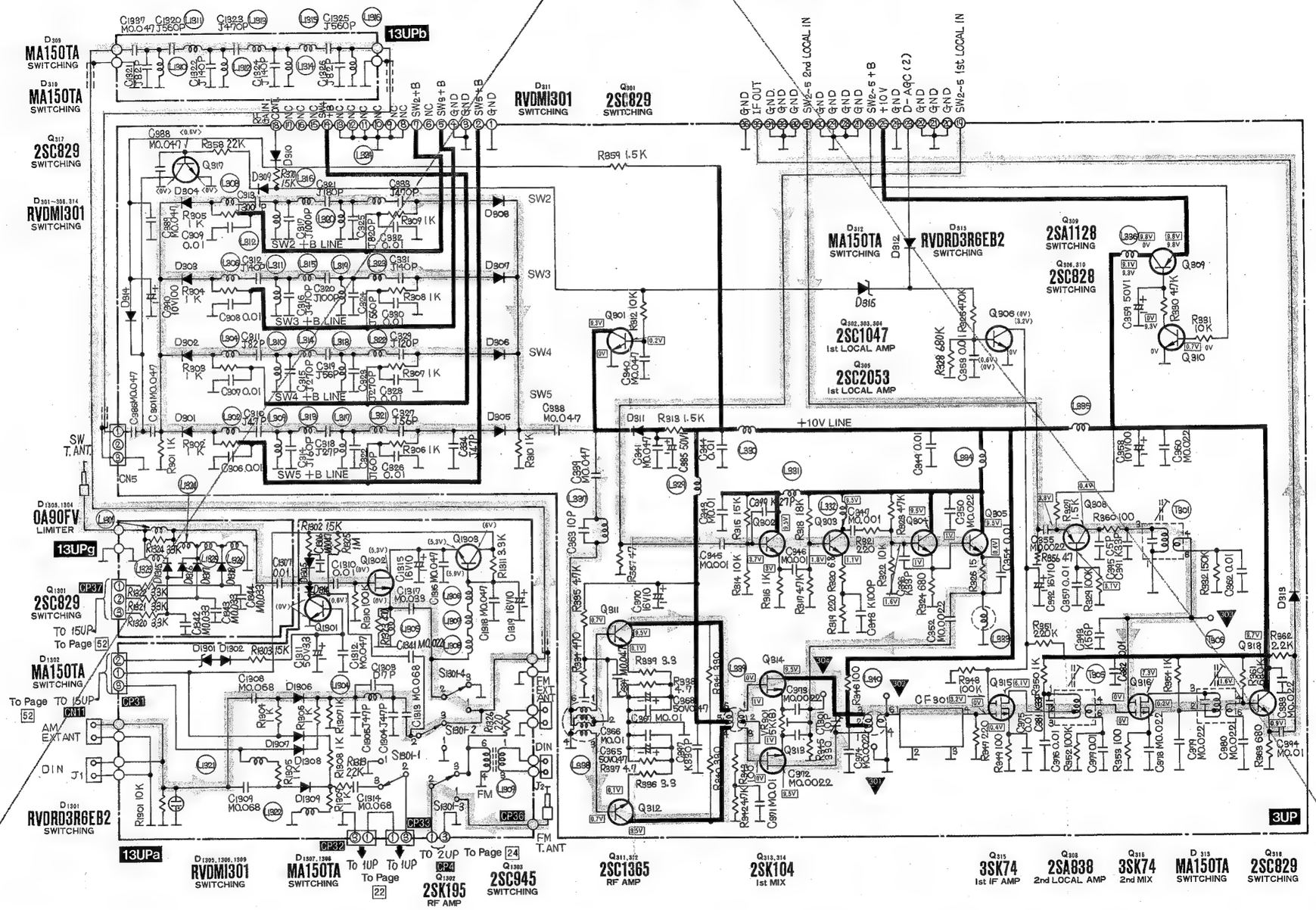
Bemerkungen:

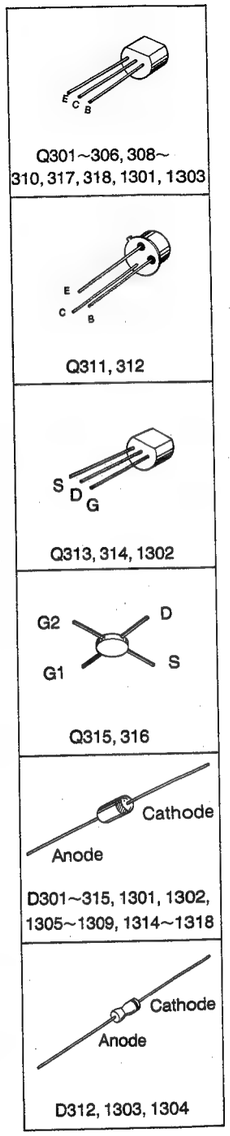
1. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
   [ ] . . . HF-Verstärkungsregler auf „MIN"
   ( ) . . . HF-Verstärkungsregler auf „MAX"
   < > . . . Stellung „LW", « » . . . Stellung „MW",
   [ ] . . . Stellung „KW 1". ⟦ ⟧ . . . Stellung „AM".

Remarque:

1. La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.
   [ ] . . . Position "MIN" de la commande de gain HF (RF GAIN),
   ( ) . . . Position "MAX" de la commande de gain HF (RF GAIN),
   < > . . . Position GO, « » . . . Position PO,
   [ ] . . . Position OC1, ⟦ ⟧ . . . Position AM.

SCHEMATIC DIAGRAM (3 UP, 13 UPa, b) . . . SW2~5 BPF, RF—IF & ANTENNA CIRCUIT





Notes:

1. S1301-1~1301-4: Antenna selector switch in "EXT ANT" position.
   (1 . . . INT ANT, 3 . . . EXT ANT)
2. The mark (▼) shows test point, e.g. ▼ =test point 1.
3. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ] . . . SW2~SW5 position, ≪ ≫ . . . SW2~SW5 AGC OFF position.
   ( ) . . . SW2~SW5 AGC ON position, [ ] . . . SW2~SW5 INT ANT position.
   < > . . . SW2~SW5 RF GAIN ON "MIN" position
4. VR301 . . . 1st Local carrier leak adjustment.

Bemerkungen:

1. S1301-1~1301-4: Antennenwahlschalter auf „Außenantenne"
   (1 . . . Geräteantenne, 3 . . . Außenantenne)
2. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B:▼ = Meßpunkt 1.
3. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
   [ ] . . . Stellung „KW2~KW5", ≪ ≫ . . . Stellung „KW2~KW5" automatische Verstärkungsregelung AUS.
   ( ) . . . Stellung „KW2~KW5" automatische Verstärkungsregelung EIN.
   < > . . . Stellung „KW2~KW5" HF-Verstärkung Minimal Position.
   [ ] . . . Stellung „KW2~KW5" Geräteantenne.
4. VR301 . . . RW zur Trägerrest-Einstellung des 1. Überlagerers.

Remarques:

1. S1301-1~1301-4: Commutateur de sélecteur d'antenne en position "EXT ANT"
   (1 . . . ANTENNE INTERIEURE,
   3 . . . ANTENNE EXTERIEURE)
2. La marque (▼) signale un point de vérification. EX.: ▼ =point de vérification 1.
3. La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.
   [ ] . . . Position OC2~OC5, ≪ ≫ . . . Anti-fading en position "OFF" (AGC OFF) OC2~OC5.
   ( ) . . . Anti-fading en position "ON" (AGC ON) OC2~OC5
   < > . . . Gain HF en position "MIN" OC2~OC5. [ ] . . . Position "ANTENNE INTERIEURE" OC2~OC5.
4. VR301: Réglage de dispersion de la première onde porteuse locale.

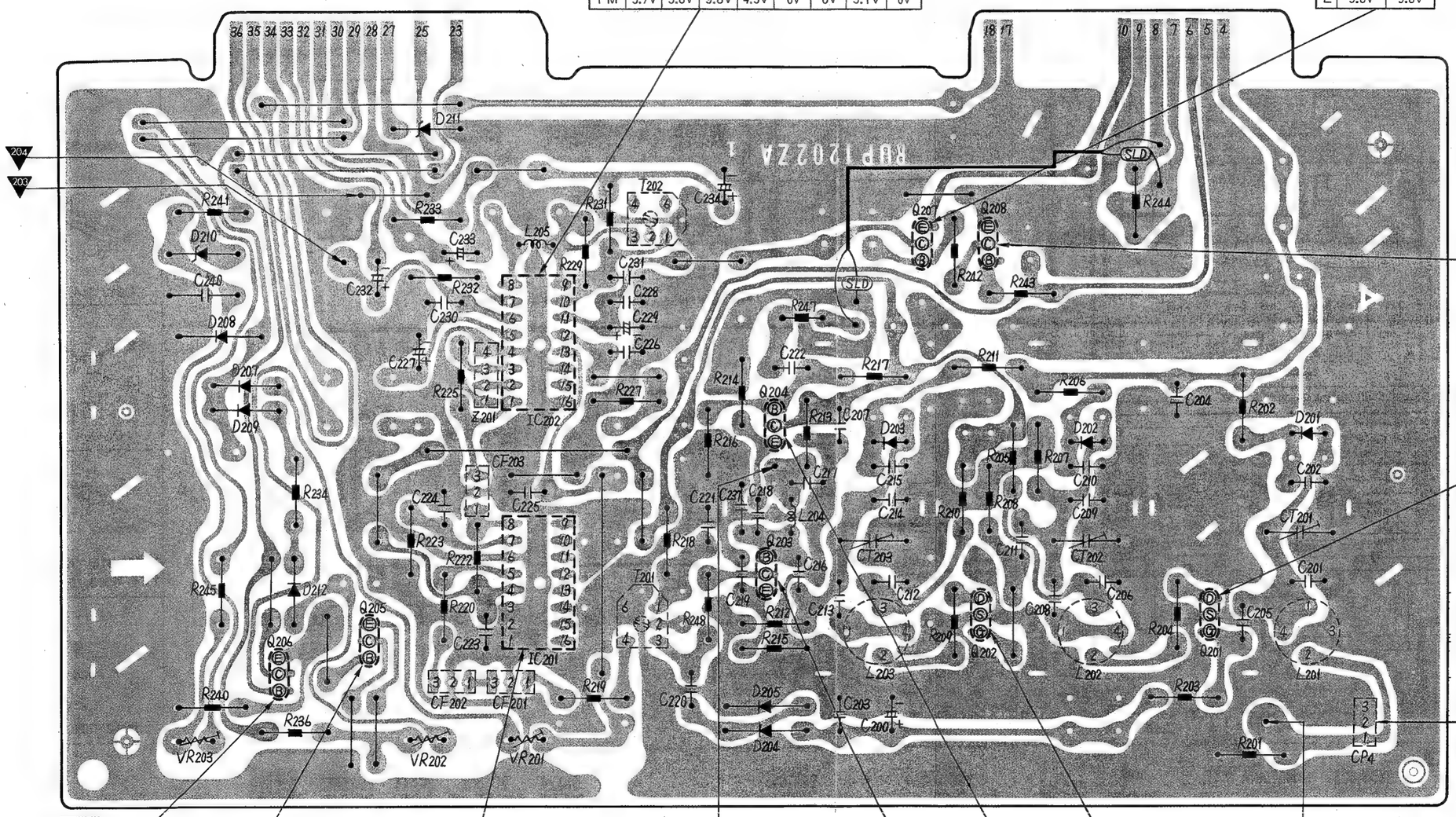
CIRCUIT BOARD WIRING VIEW (2 UP) . . . FM RF IF DET & METER CIRCUIT

IC202

	1	2	3	4	5	6	7	8
FM	2.1V	2.1V	2.1V	0V	0.4V	6V	5.4V	5.7V
	9	10	11	12	13	14	15	16
FM	5.7V	5.8V	9.8V	4.5V	0V	0V	5.1V	0V

Q207

	FM	AM
C	9.8V	0V
B	9.2V	9.8V
E	9.8V	9.8V

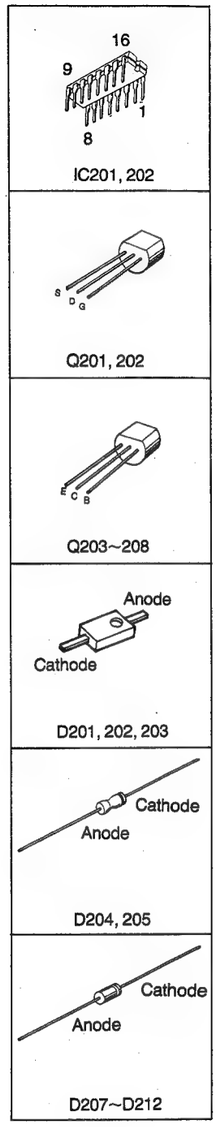


Q208

	FM	AM
C	0V	9.2V
B	0.6V	0V
E	0V	0V

Q201

	FM
D	5.8V
G	0V
S	0V



2UP

Q206

	FM	AM
C	0V	6.1V
B	0V	0.3V
E	0V	0V

Q205

	FM	AM
C	0V	0V
B	0V	0.1V
E	0V	0.9V

IC201

	1	2	3	4	5	6	7	8
FM	0V	0V	0V	6.1V	1V	0V	1V	6V

Q203

	FM
C	5.9V
B	1.1V
E	0.4V

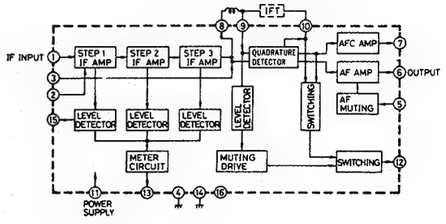
Q204

	FM
C	6.1V
B	2.6V
E	1.8V

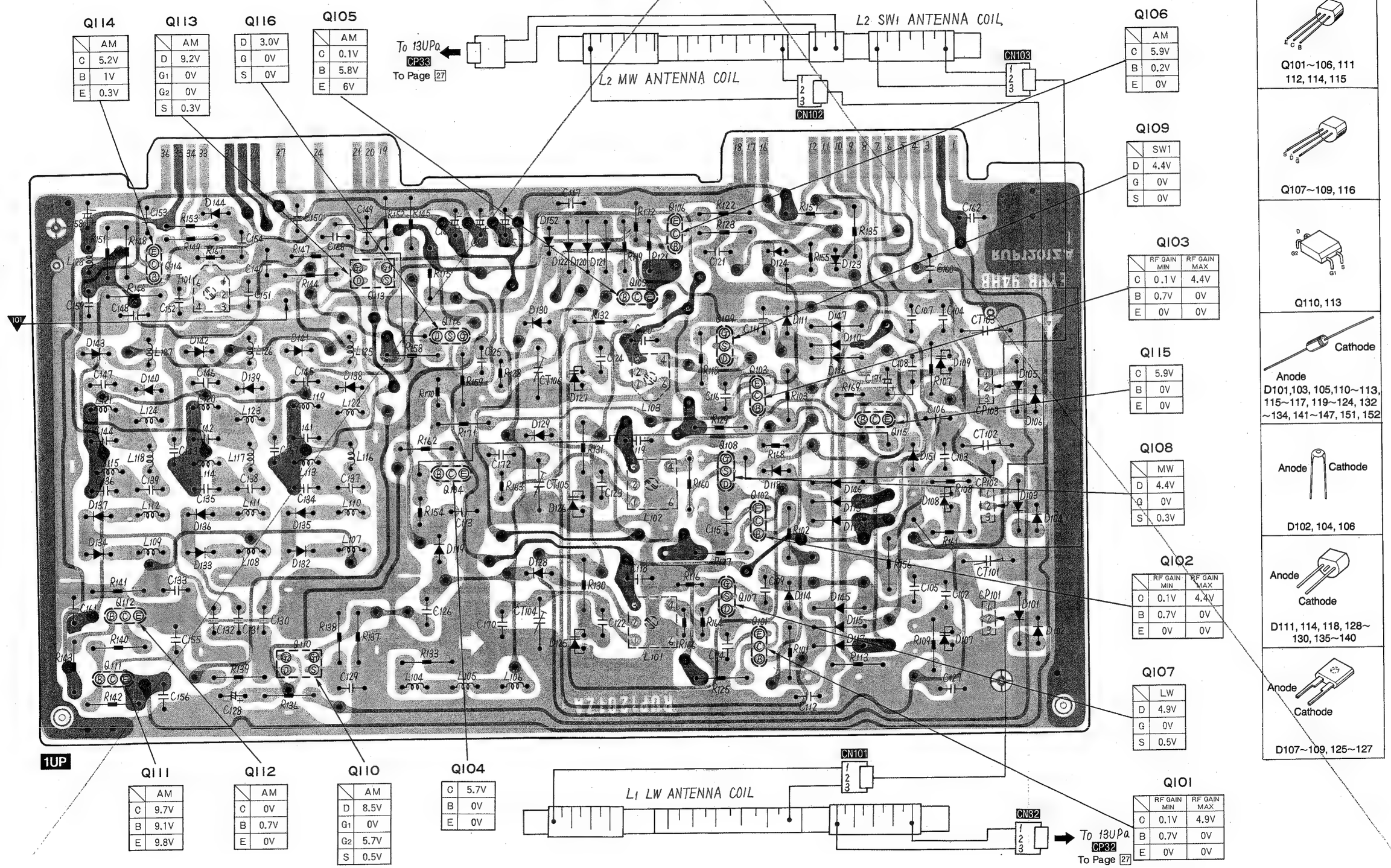
Q202

	FM
D	5.8V
G	0V
S	0V

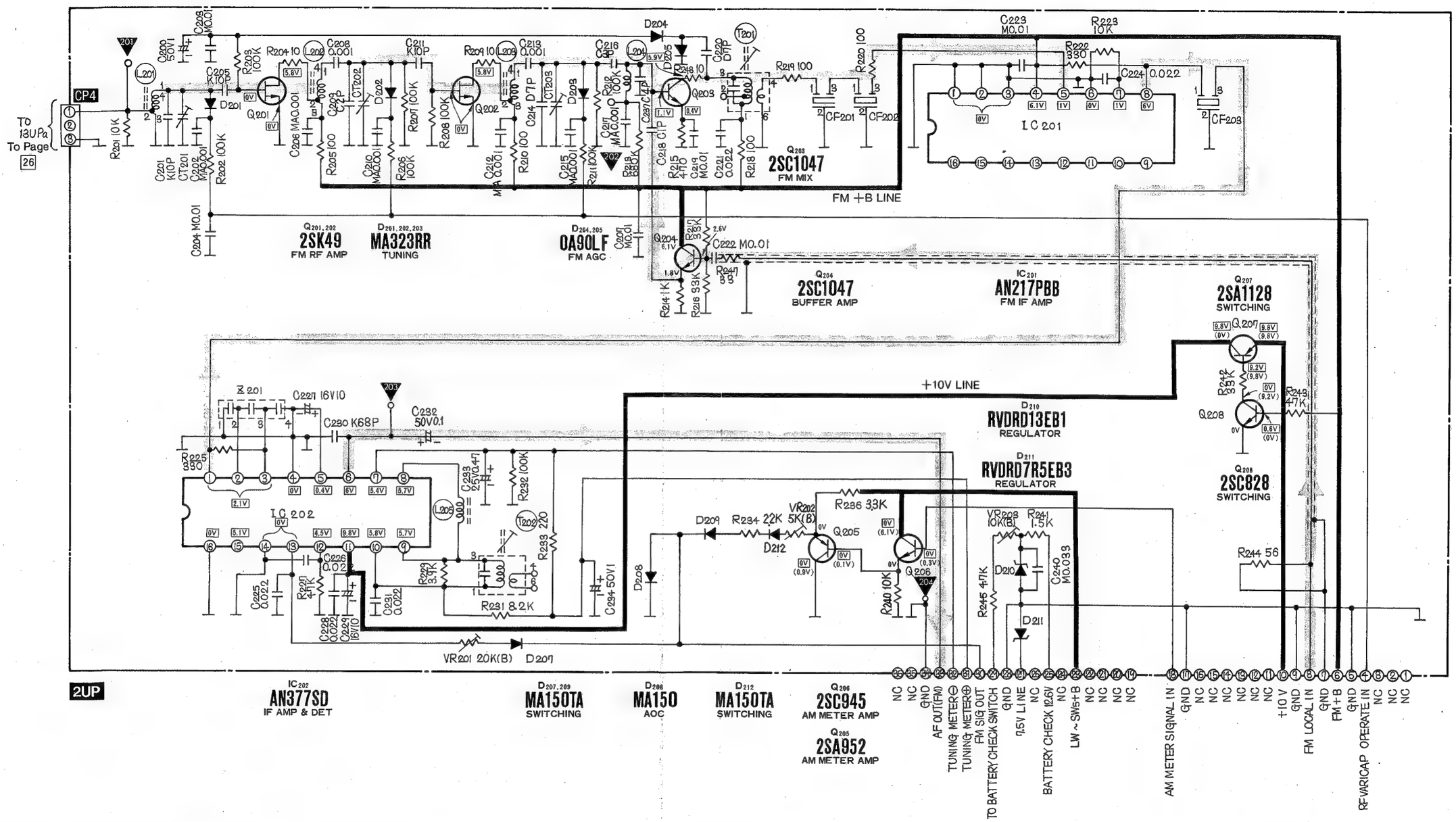
IC202 AN377SD



CIRCUIT BOARD WIRING VIEW (1 UP) . . . LW, MW, SW1—RF CIRCUIT



SCHEMATIC DIAGRAM (2 UP) . . . FM RF IF DET & METER CIRCUIT



Notes:

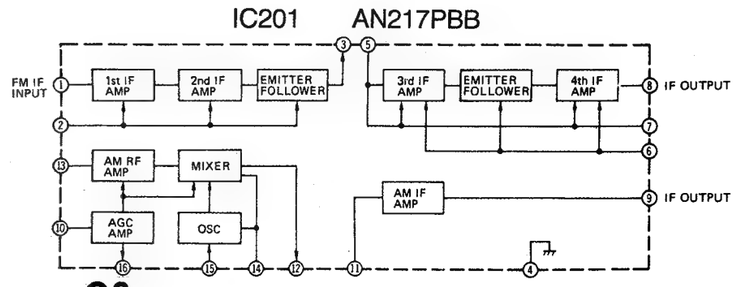
1. The mark (▼) shows test point, e.g. ▼=test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ] . . . FM position, ( ) . . . AM position.
3. VR201 . . . FM signal meter adjustment, VR202 . . . AM signal meter adjustment, VR203 . . . Battery check adjustment.

Bemerkungen:

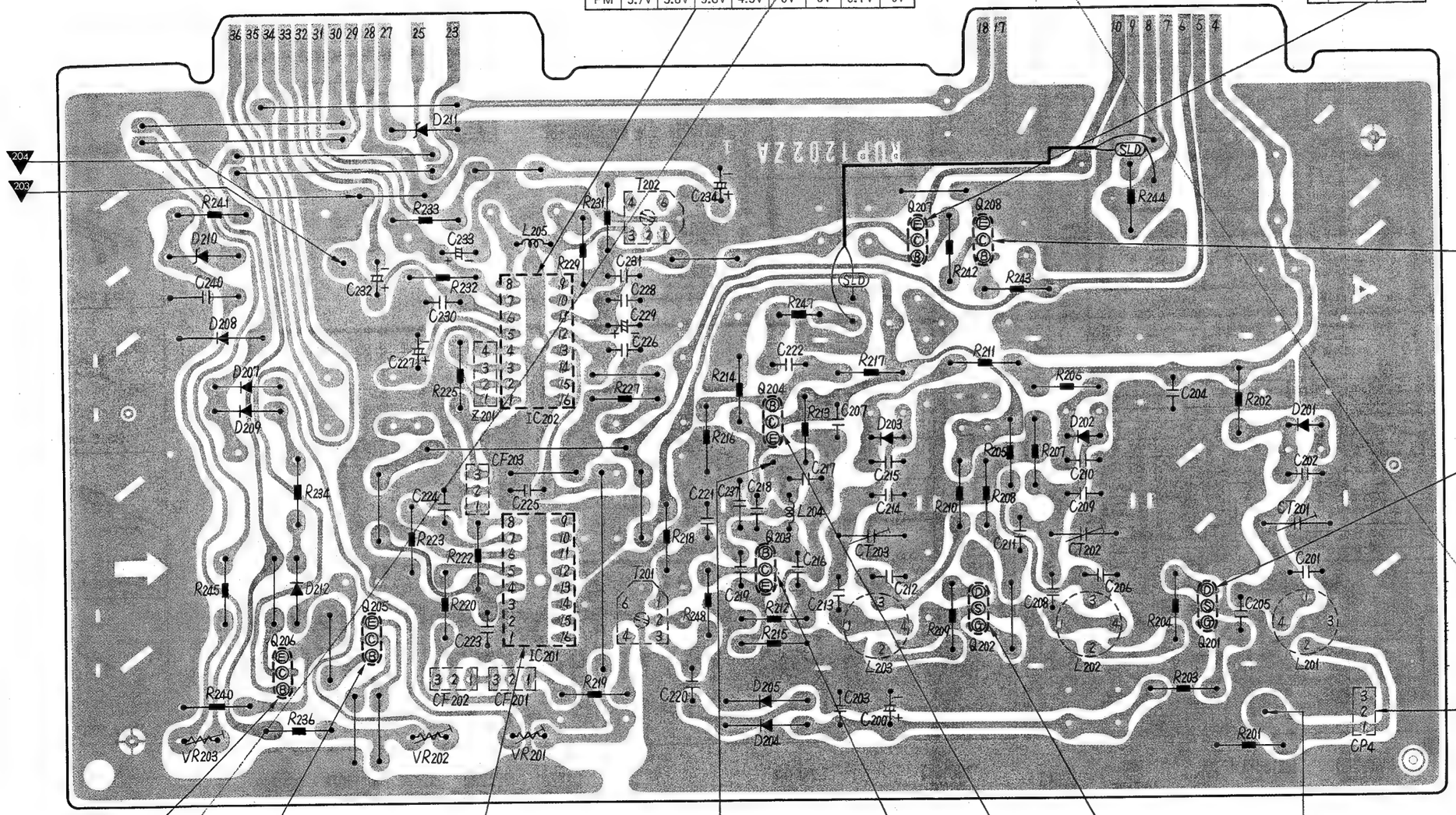
1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B: ▼= Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
   [ ] . . .Stellung „UKW", ( ) . . . Stellung „AM".
3. VR201 . . . RW zur Einstellung der FM-Signalstärkeanzeige.
   VR202 . . . RW zur Einstellung der AM-Signalstärkeanzeige.
   VR203 . . . RW zur Einstellung der Batterieanzeige.

Remarques:

1. La marque (▼) signale un point de vérification. EX.: ▼ =point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.
   [ ] Position FM, ( ) . . . Position AM.
3. VR201 . . . Réglage du Vu-mètre de signal FM,
   VR202 . . . Réglage du Vu-mètre de signal AM,
   VR203 . . . Commande de vérification des piles.



CIRCUIT BOARD WIRING VIEW (2 UP) . . . FM RF IF DET & METER CIRCUIT



IC202

	1	2	3	4	5	6	7	8
FM	2.1V	2.1V	2.1V	0V	0.4V	6V	5.4V	5.7V
	9	10	11	12	13	14	15	16
FM	5.7V	5.8V	9.8V	4.5V	0V	0V	5.1V	0V

Q207

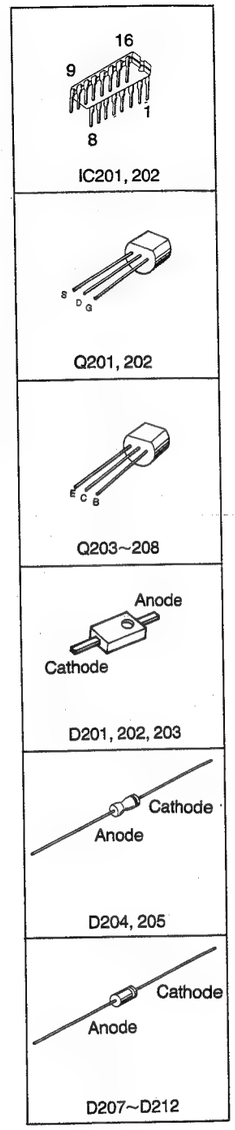
	FM	AM
C	9.8V	0V
B	9.2V	9.8V
E	9.8V	9.8V

Q208

	FM	AM
C	0V	9.2V
B	0.6V	0V
E	0V	0V

Q201

	FM
D	5.8V
G	0V
S	0V



Q206

	FM	AM
C	0V	6.1V
B	0V	0.3V
E	0V	0V

Q205

	FM	AM
C	0V	0V
B	0V	0.1V
E	0V	0.9V

IC201

	1	2	3	4	5	6	7	8
FM	0V	0V	0V	6.1V	1V	0V	1V	6V

Q203

	FM
C	5.9V
B	1.1V
E	0.4V

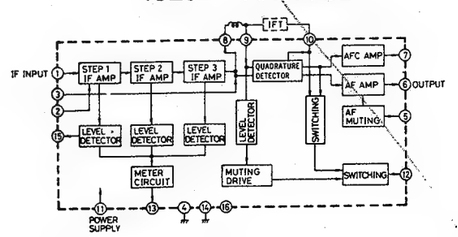
Q204

	FM
C	6.1V
B	2.6V
E	1.8V

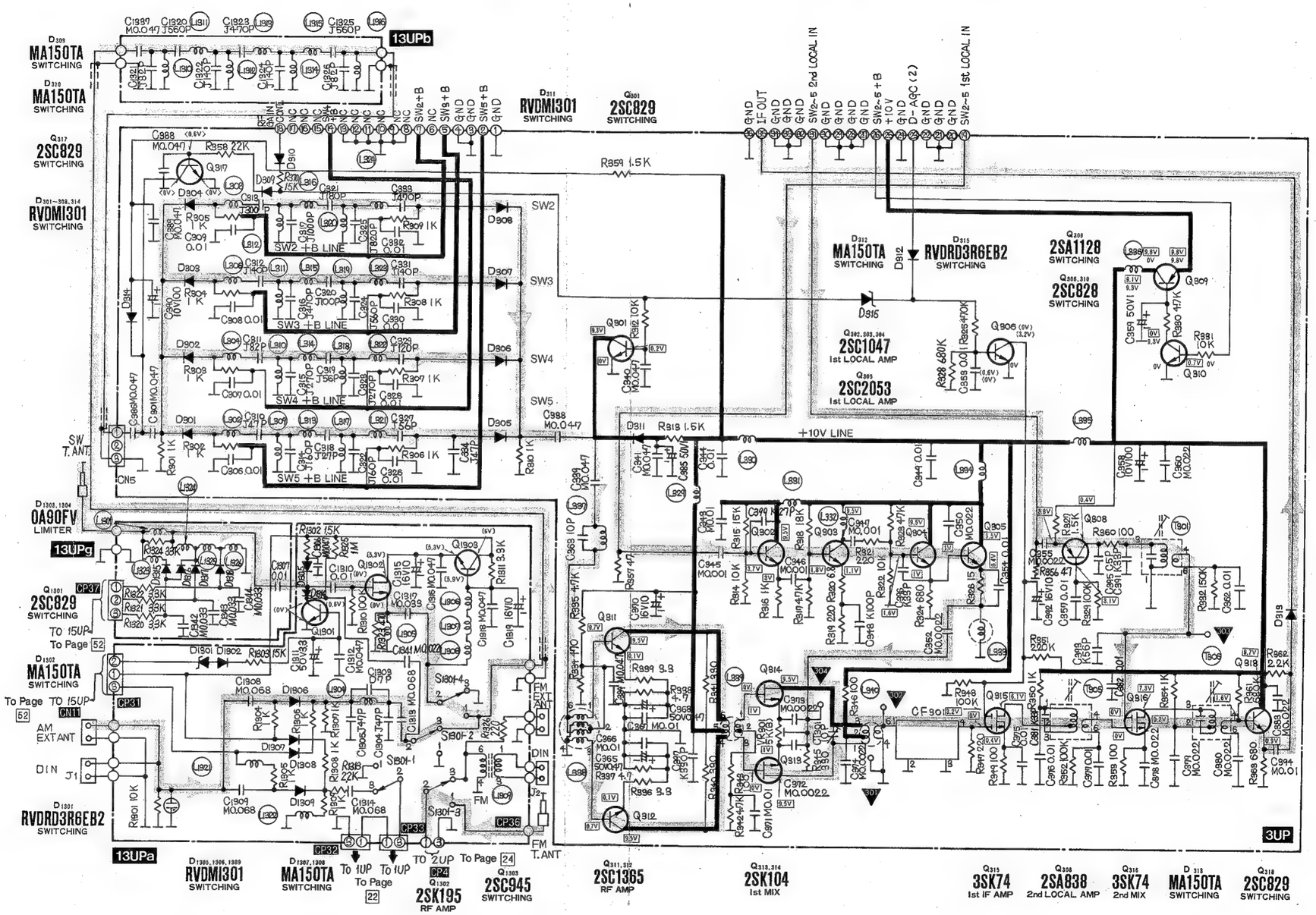
Q202

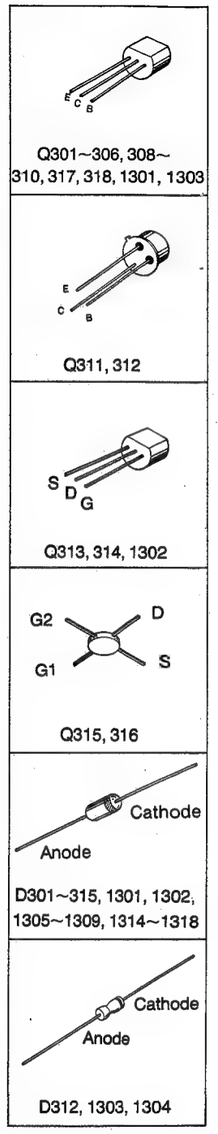
	FM
D	5.8V
G	0V
S	0V

IC202 AN377SD



SCHEMATIC DIAGRAM (3 UP, 13 UPa, b) . . . SW2~5 BPF, RF—IF & ANTENNA CIRCUIT





Notes:

1. S1301-1~1301-4: Antenna selector switch in "EXT ANT" position.
   (1 . . . INT ANT, 3 . . . EXT ANT)
2. The mark (▼) shows test point, e.g. ▼ =test point 1.
3. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ] . . . SW2~SW5 position, ≪ ≫ . . . SW2~SW5 AGC OFF position.
   ( ) . . . SW2~SW5 AGC ON position, [ ] . . . SW2~SW5 INT ANT position.
   〈 〉. . . SW2~SW5 RF GAIN ON "MIN" position
4. VR301 . . . 1st Local carrier leak adjustment.

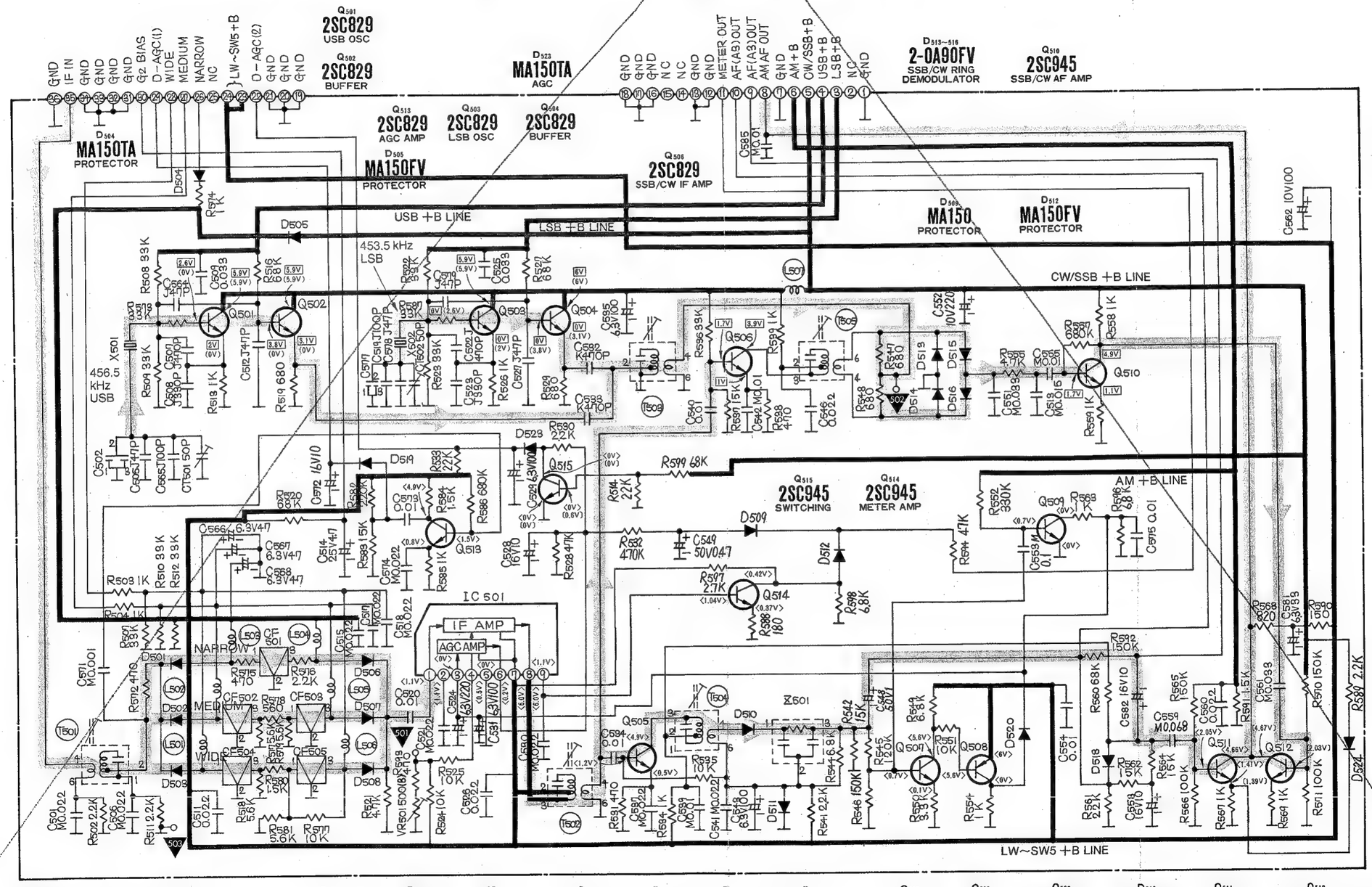
Bemerkungen:

1. S1301-1~1301-4: Antennenwahlschalter auf „Außenantenne"
   (1 . . . Geräteantenne, 3 . . . Außenantenne)
2. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B:▼ = Meßpunkt 1.
3. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
   [ ] . . . Stellung „KW2~KW5", ≪ ≫ . . . Stellung „KW2~KW5" automatische Verstärkungsregelung AUS.
   ( ) . . . Stellung „KW2~KW5" automatische Verstärkungsregelung EIN.
   〈 〉. . . Stellung „KW2~KW5" HF-Verstärkung Minimal Position.
   [ ] . . . Stellung „KW2~KW5" Geräteantenne.
4. VR301 . . . RW zur Trägerrest-Einstellung des 1. Überlagerers.

Remarques:

1. S1301-1~1301-4: Commutateur de sélecteur d'antenne en position "EXT ANT"
   (1 . . . ANTENNE INTERIEURE,
   3 . . . ANTENNE EXTERIEURE)
2. La marque (▼) signale un point de vérification. EX.: ▼ =point de vérification 1.
3. La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.
   [ ] . . . Position OC2~OC5, ≪ ≫ . . . Anti-fading en position "OFF" (AGC OFF) OC2~OC5.
   ( ) . . . Anti-fading en position "ON" (AGC ON) OC2~OC5
   〈 〉. . . Gain HF en position "MIN" OC2~OC5. [ ] . . . Position "ANTENNE INTERIEURE" OC2~OC5.
4. VR301: Réglage de dispersion de la première onde porteuse locale.

SCHEMATIC DIAGRAM (5 UP) . . . IF, DET, BPF, SSB & AM METER CIRCUIT



5UP

D501~503 MA150FV	D506~508 MA150TA PROTECTOR	D519 OA90FV AGC	IC501 AN5710 IF/D. AGC AMP	Q505 2SC829 IF AMP	D520 OA95 SWITCHING	D510 OA90FV DET/AGC	D511 RVDKB262D AOC	Q507 2SC828 AGC AMP	Q508 2SA564 AGC AMP	Q509 2SC828 SSB/CW AGC AMP	D518 MA150TA ANL	Q511 2SC945 AM 1st AF AMP	Q512 2SC945 SSB 2nd AF AMP	D524 MA150FV SWITCHING

Notes:

1. The mark (▼) shows test point, e.g. ▼ =test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ] . . . AM USB position, ( ) . . . AM LSB position,
   ( ) . . . AM position, [ ] . . . SSB position

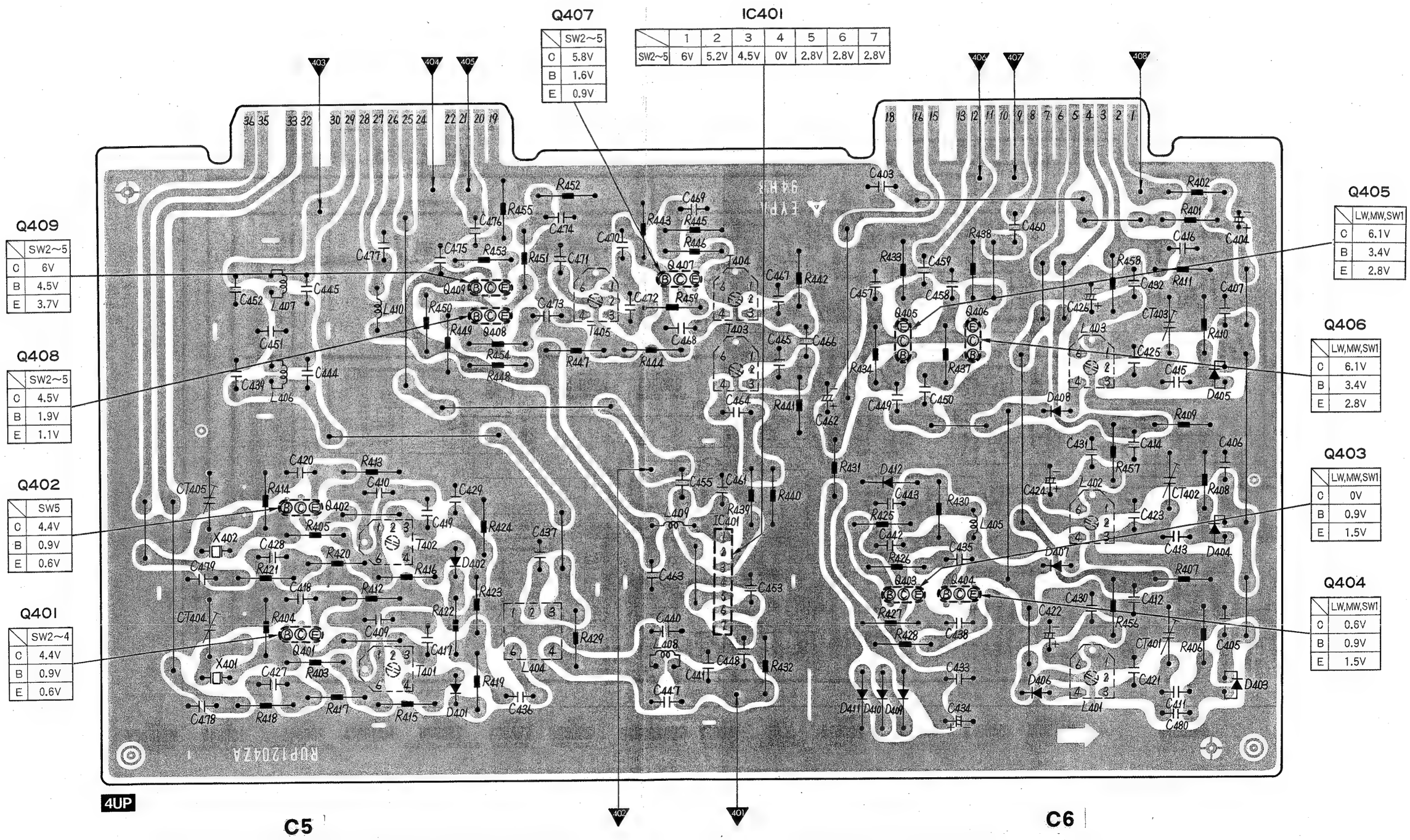
Bemerkungen:

1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B: = Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
   [ ] . . . ohne AM Seitenband, ( ) . . . Stellung "LSB"

Remarques:

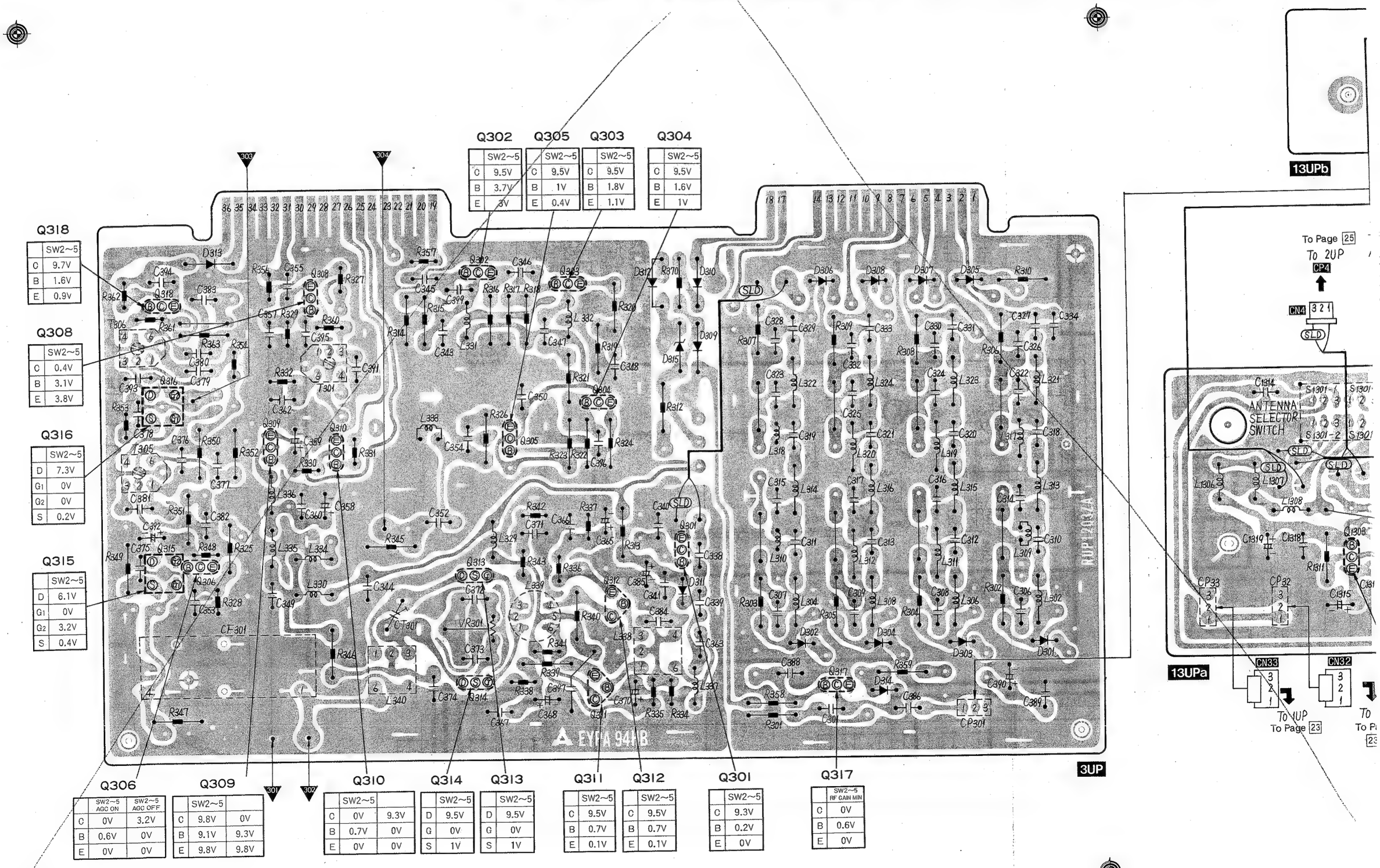
1. La marque (▼) signale un point de vérification. Ex.: ▼ =point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.
   [ ] . . . Position AM USB (bande latérale supérieure)

CIRCUIT BOARD WIRING VIEW (4 UP) . . . LW, MW, SW1—VCO, Xtal OSC & MIX CIRCUIT

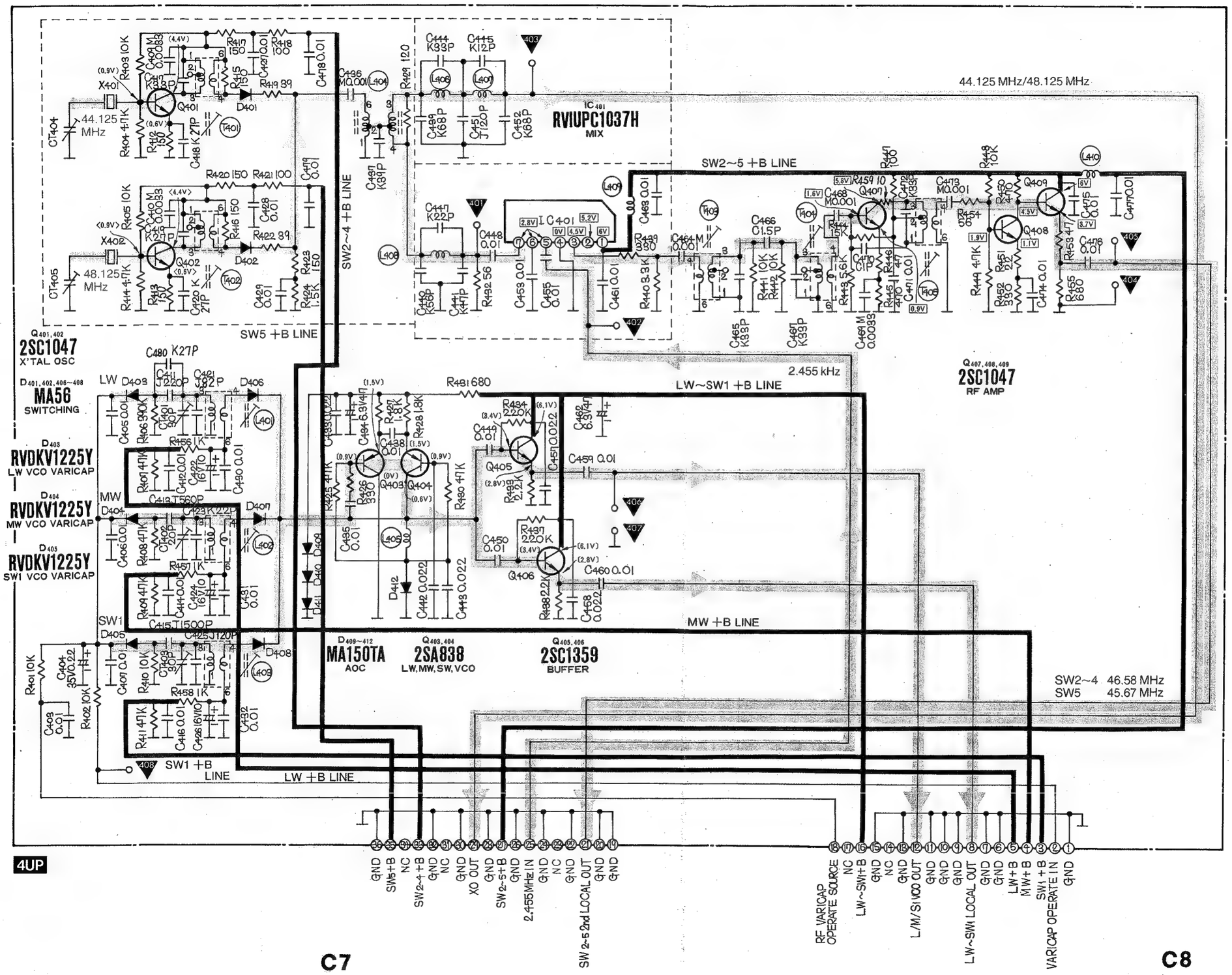


3 UP, 13 UPa, b
3 UP, 13 UPa, b

CIRCUIT BOARD WIRING VIEW (3 UP, 13 UPa, b) . . .SW2~5 BPF, RF—IF & ANT



SCHEMATIC DIAGRAM (4 UP) . . . LW, MW, SW1—VCO, Xtal OSC & MIX CIRCUIT



Notes:

1. The mark (▼) shows test point, e.g. ▼ =test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ]. . . SW2~SW5 position,
   ( ). . . SW2~SW4 position,
   < >. . . SW5 position,
   [ ]. . . LW, MW, SW1 position.

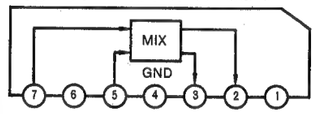
Bemerkungen:

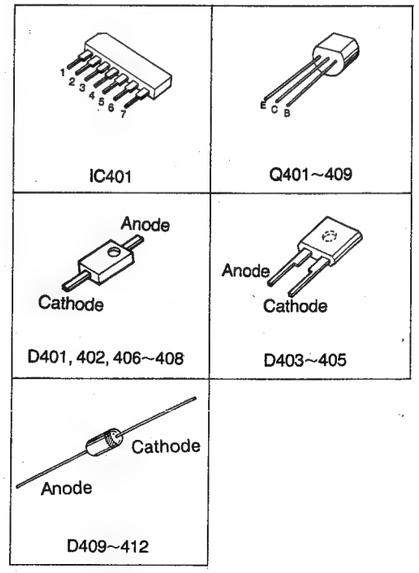
1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B: ▼= Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterie-anschluß aus zu messen.
   [ ]. . . Stellung ,,KW2~KW5'',
   ( ). . . Stellung, ,,KW2~KW4'',
   < >. . . Stellung ,,KW5'',
   [ ]. . . Stellung ,,LW, MW, KW 1''.

Remarques:

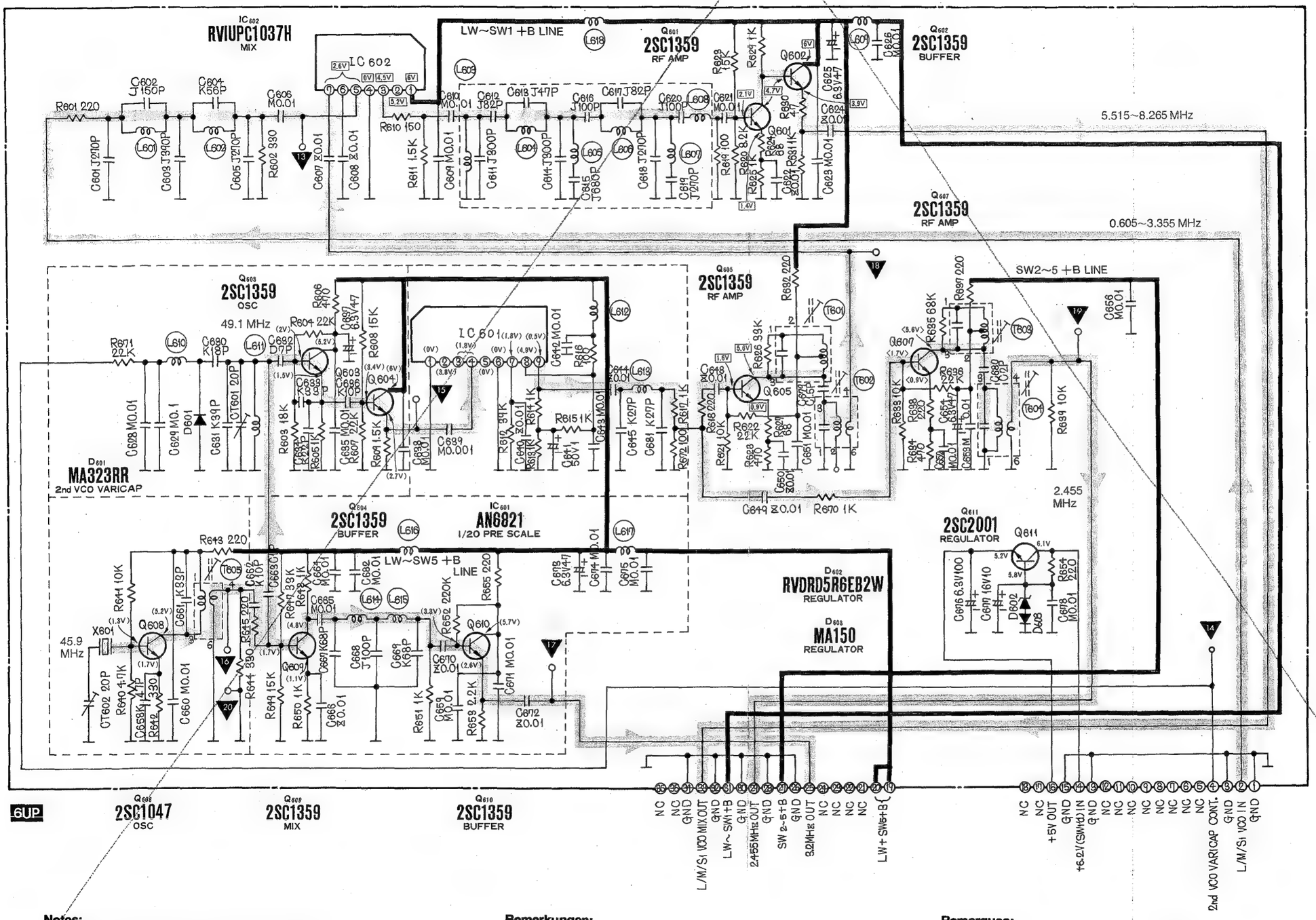
1. La marque (▼) signale un point de vérification. EX.: ▼ =point de vérification 1.
2. La tension c.c. est meaurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.
   [ ]. . .Position OC2~OC5,
   ( ). . . Position OC2~OC4,
   < >. . . Position OC5,
   [ ]. . . Position GO, PO, OC1.

IC401 RVIUPC1037H

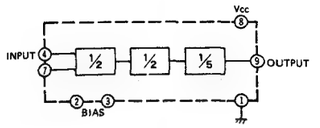




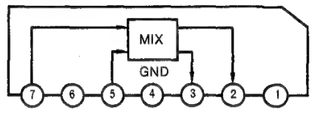
SCHEMATIC DIAGRAM (6 UP) . . .2nd PLL ,VCO & MIX CIRCUIT



IC601 AN6821



IC602 RVIUPC1037H



Notes:

1. The mark (▼) shows test point, e.g. ▼ =test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ]. . . LW, MW, SW1 position, ( ). . . AM position,
   < >. . . SW2~SW5 position.

Bemerkungen:

1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B:▼= Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
   [ ]. . . Stellung „LW, MW, KW1", ( ). . . Stellung „AM",
   < >. . . Stellung „KW2~KW5".

Remarques:

1. La marque (▼) signale un point de vérification. Ex.: ▼ =point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.
   [ ]. . . Position GO, PO, OC1, ( ). . . Position AM,
   < >. . . Position OC2~OC5.

CIRCUIT BOARD WIRING VIEW (5 UP) . . . IF, DET, BPF, SSB & AM METER CIRCUIT

Q510

	AM USB/LSB
C	4.9V
B	1.7V
E	1.1V

Q512

	SSB
C	4.67V
B	2.03V
E	1.39V

Q509

	AM
C	0V
B	0.7V
E	0V

Q511

	AM
C	4.66V
B	2.05V
E	1.41V

Q514

	AM
C	0.42V
B	1.04V
E	0.37V

Q505

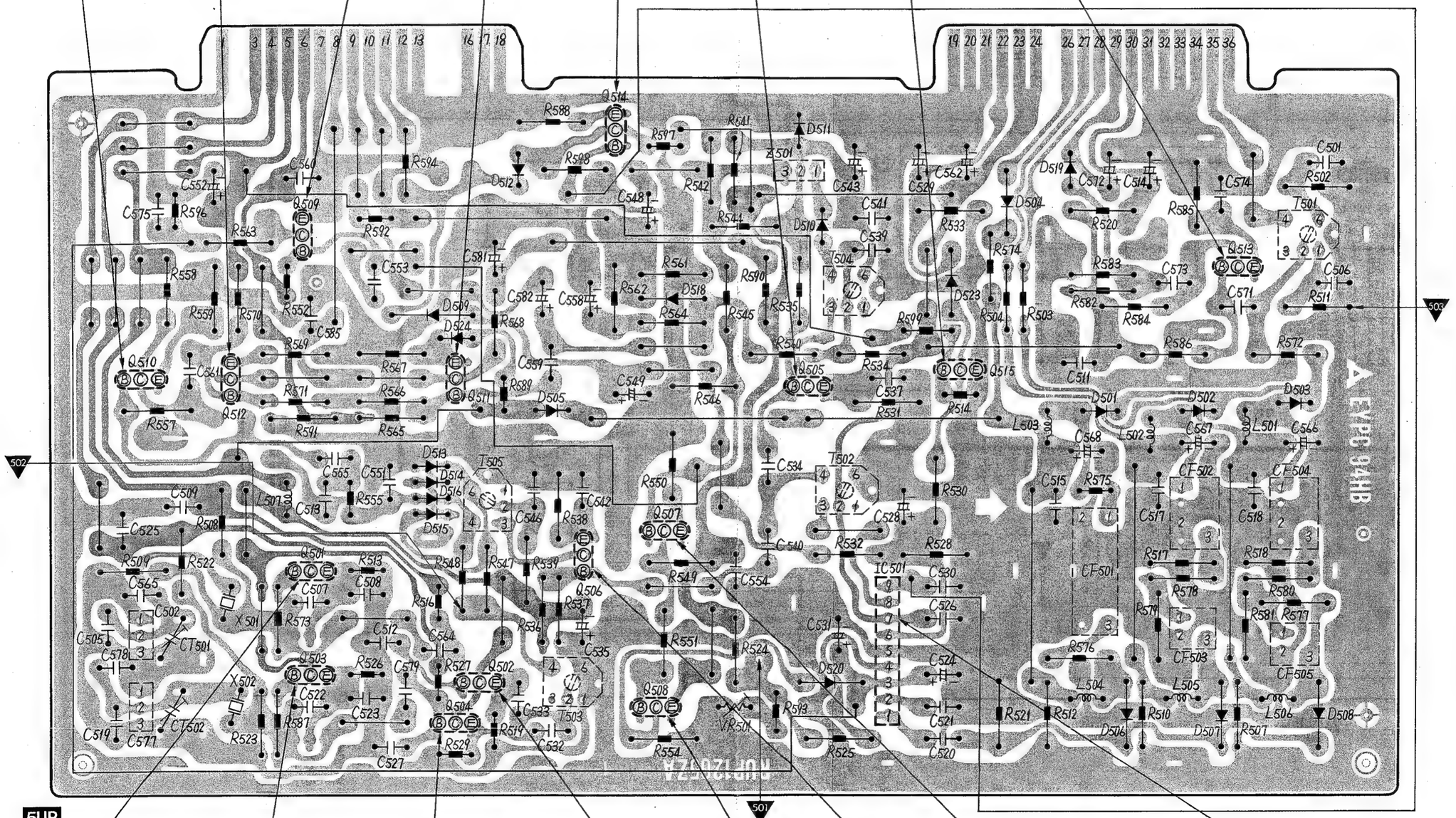
	AM
C	4.9V
B	1.2V
E	0.5V

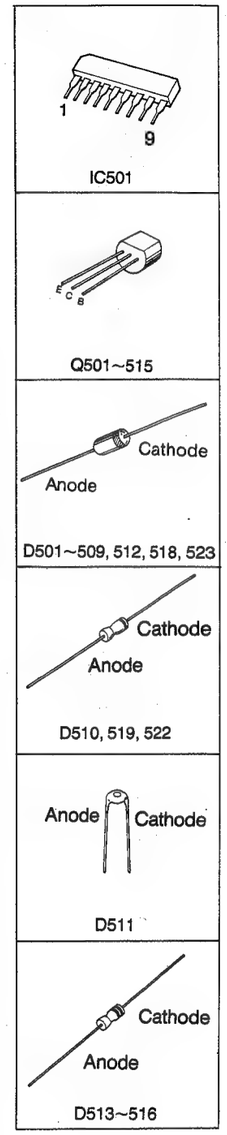
Q515

	AM	SSB
C	0V	0V
B	0V	0.6V
E	0V	0V

Q513

	AM
C	4.9V
B	1.5V
E	0.8V





Q501

	AM USB	AM LSB
C	5.9V	5.9V
B	2.6V	0V
E	2V	0V

Q503

	AM USB	AM LSB
C	5.9V	5.9V
B	0V	2.6V
E	0V	2.0V

Q504

	AM USB	AM LSB
C	6V	6V
B	0V	3.8V
E	0V	3.1V

Q502

	AM USB	AM LSB
C	5.9V	5.9V
B	3.8V	0V
E	3.1V	0V

Q508

	AM
C	0V
B	5.6V
E	6V

Q506

	AM USB/LSB
C	3.9V
B	1.7V
E	1V

Q507

	AM
C	5.6V
B	0.7V
E	0.1V

IC501

	1	2	3	4	5	6	7	8	9
AM	1.1V	1.1V	0V	0.5V	0V	0.2V	6.0V	6.0V	1.1V

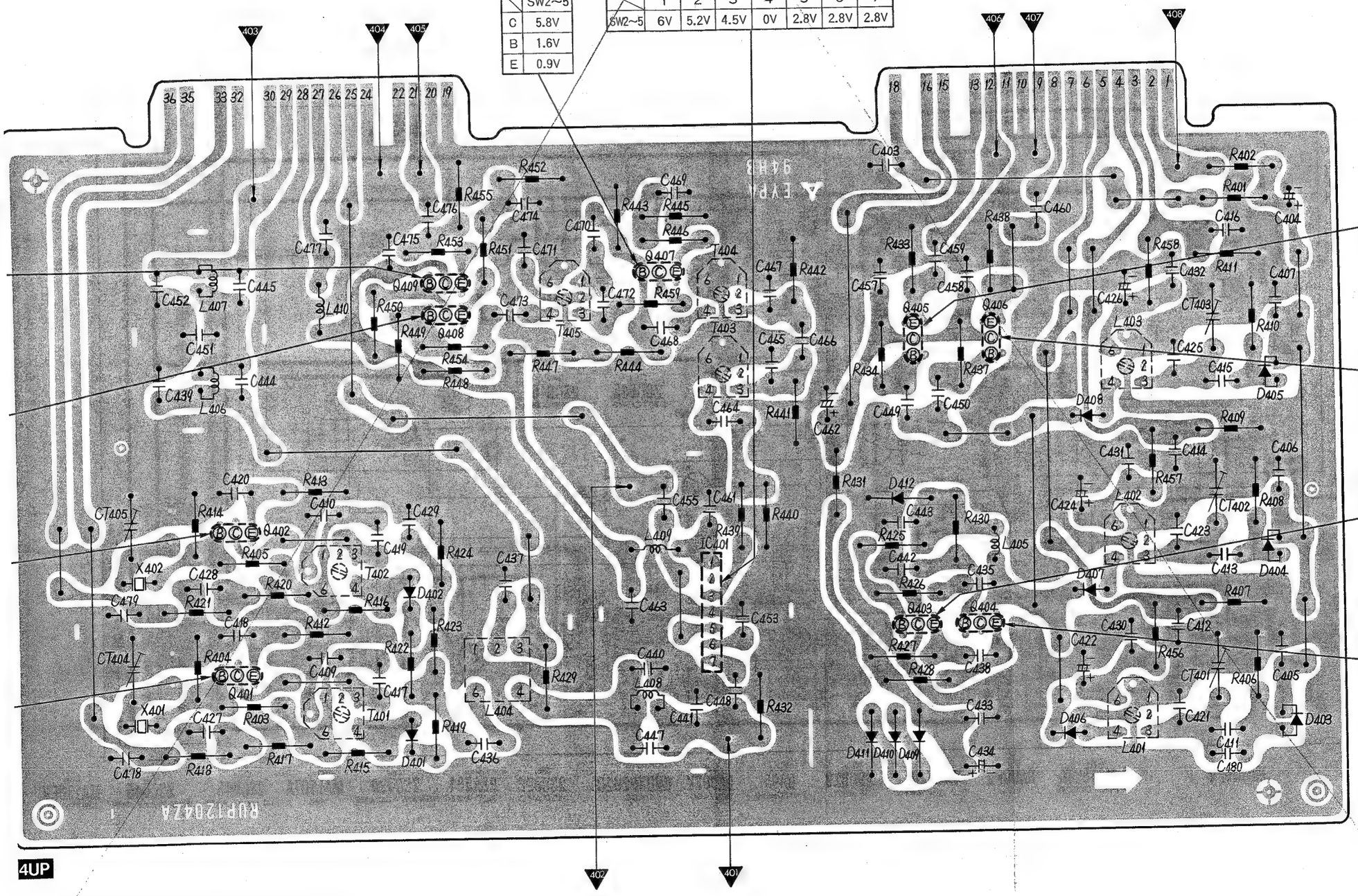
CIRCUIT BOARD WIRING VIEW (4 UP) . . . LW, MW, SW1—VCO, Xtal OSC & MIX CIRCUIT

Q407

	SW2~5
C	5.8V
B	1.6V
E	0.9V

IC401

	1	2	3	4	5	6	7
SW2~5	6V	5.2V	4.5V	0V	2.8V	2.8V	2.8V



Q406

	LW,MW,SW
C	6.1V
B	3.4V
E	2.8V

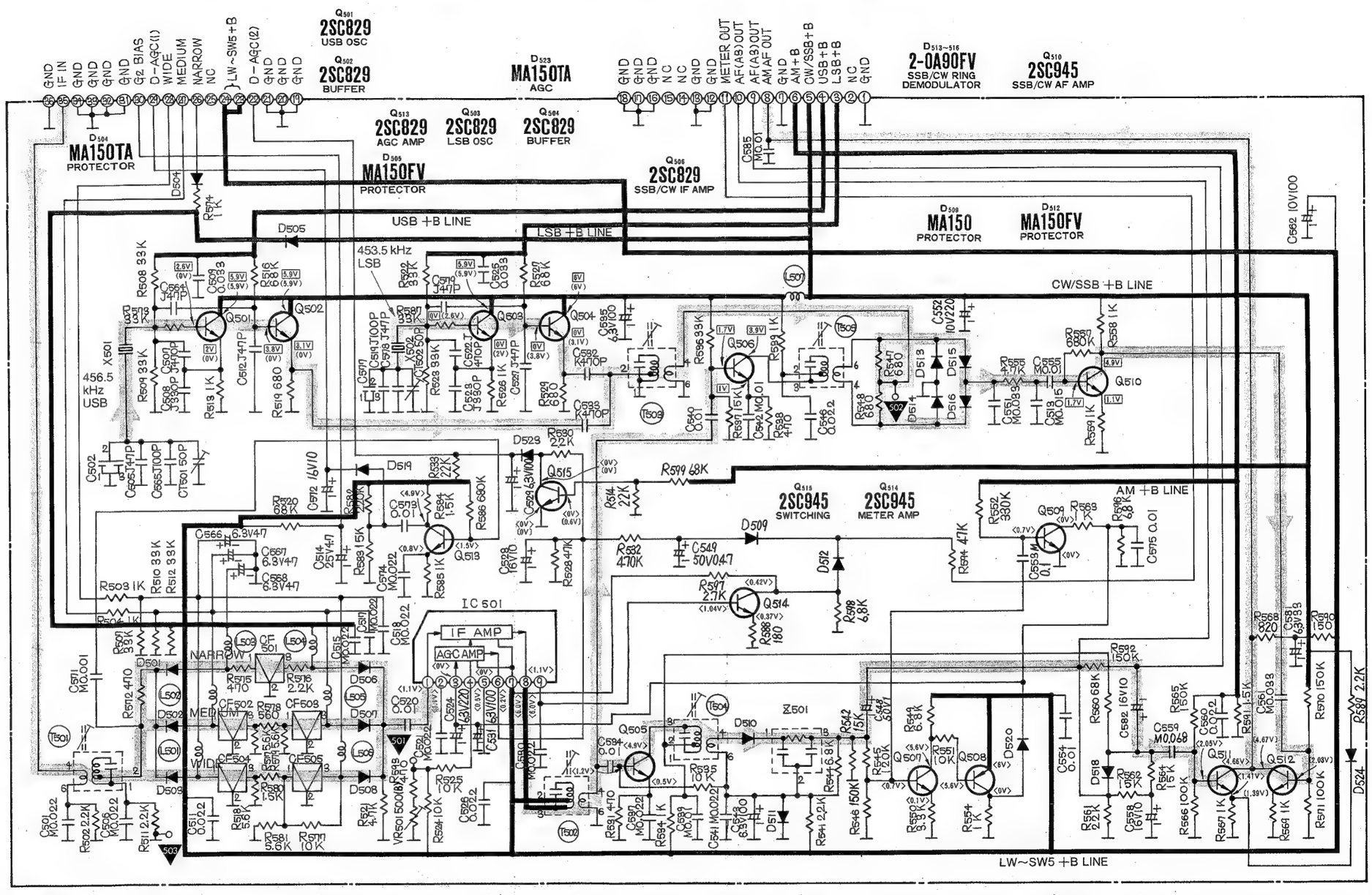
Q403

	LW,MW,SW
C	0V
B	0.9V
E	1.5V

Q404

	LW,MW,SW
C	0.6V
B	0.9V
E	1.5V

SCHEMATIC DIAGRAM (5 UP) . . . IF, DET, BPF, SSB & AM METER CIRCUIT



5UP

D501~503	D506~508	D519	IC501	Q505	D520	D510	D511	Q507	Q508	Q509	D518	Q511	Q512	D524
MA150FV	MA150TA PROTECTOR	0A90FV AGC	AN5710 IF/D. AGC AMP	2SC829 IF AMP	0A95 SWITCHING	0A90FV DET/AGC	RVDKB262D AOC	2SC828 AGC AMP	2SA564 AGC AMP	2SC828 SSB/CW AGC AMP	MA150TA ANL	2SC945 AM 1st AF AMP	2SC945 SSB 2nd AF AMP	MA150FV SWITCHING

Notes:

1. The mark (▼) shows test point, e.g. ▼ =test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ] . . . AM USB position, ( ) . . . AM LSB position,
   < > . . . AM position. [ ] . . . SSB position.
3. VR501 . . . AM D.AGC adjustment.

Bemerkungen:

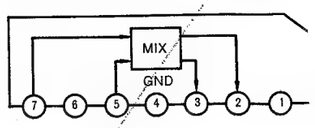
1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B: = Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
   [ ] . . . oberes AM-Seitenband, [ ] . . . Stellung „SSB"
   ( ) . . . unteres AM-Seitenband, < > . . . Stellung „AM".
3. VR501 . . . RW zur Einstellung der verzögerten AM-Verstärkungsregelung.

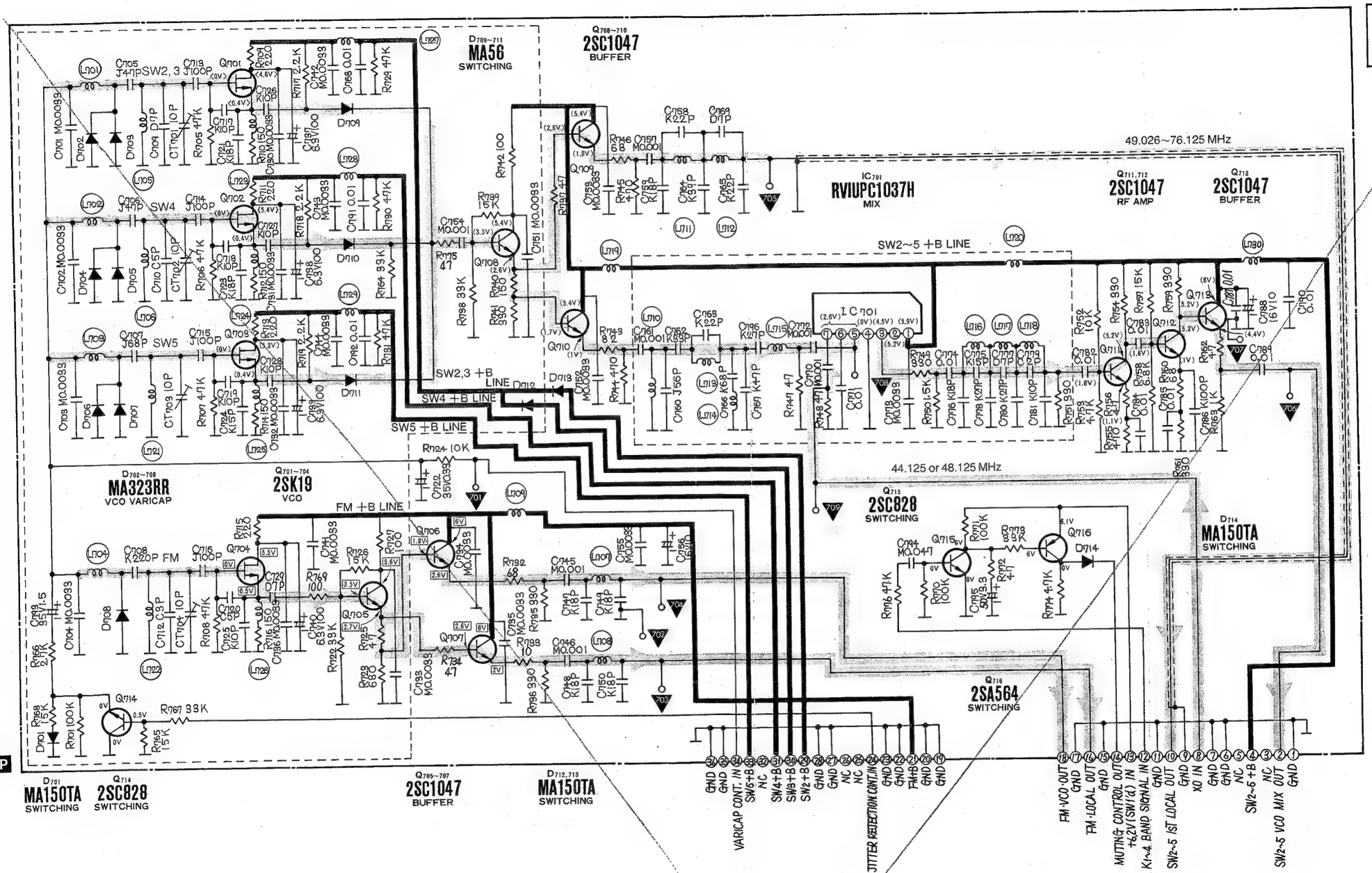
Remarques:

1. La marque (▼) signale un point de vérification. Ex.: ▼ =point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.
   [ ] . . . Position AM USB (bande latérale supérieure),
   ( ) . . . Position AM LSB (bande latérale inférieure),
   < > . . . Position AM. [ ] . . . Position SSB.
3. VR501 . . . Réglage D.AGC (anti-fading) pour AM.

SCHEMATIC DIAGRAM (7 UP) . . . SW2~5, FM VCO, MIX & MUTING CIRCUIT

IC701 RVIUPC1037H





Notes:

1. The mark (▼) shows test point, e.g. ▼=test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.

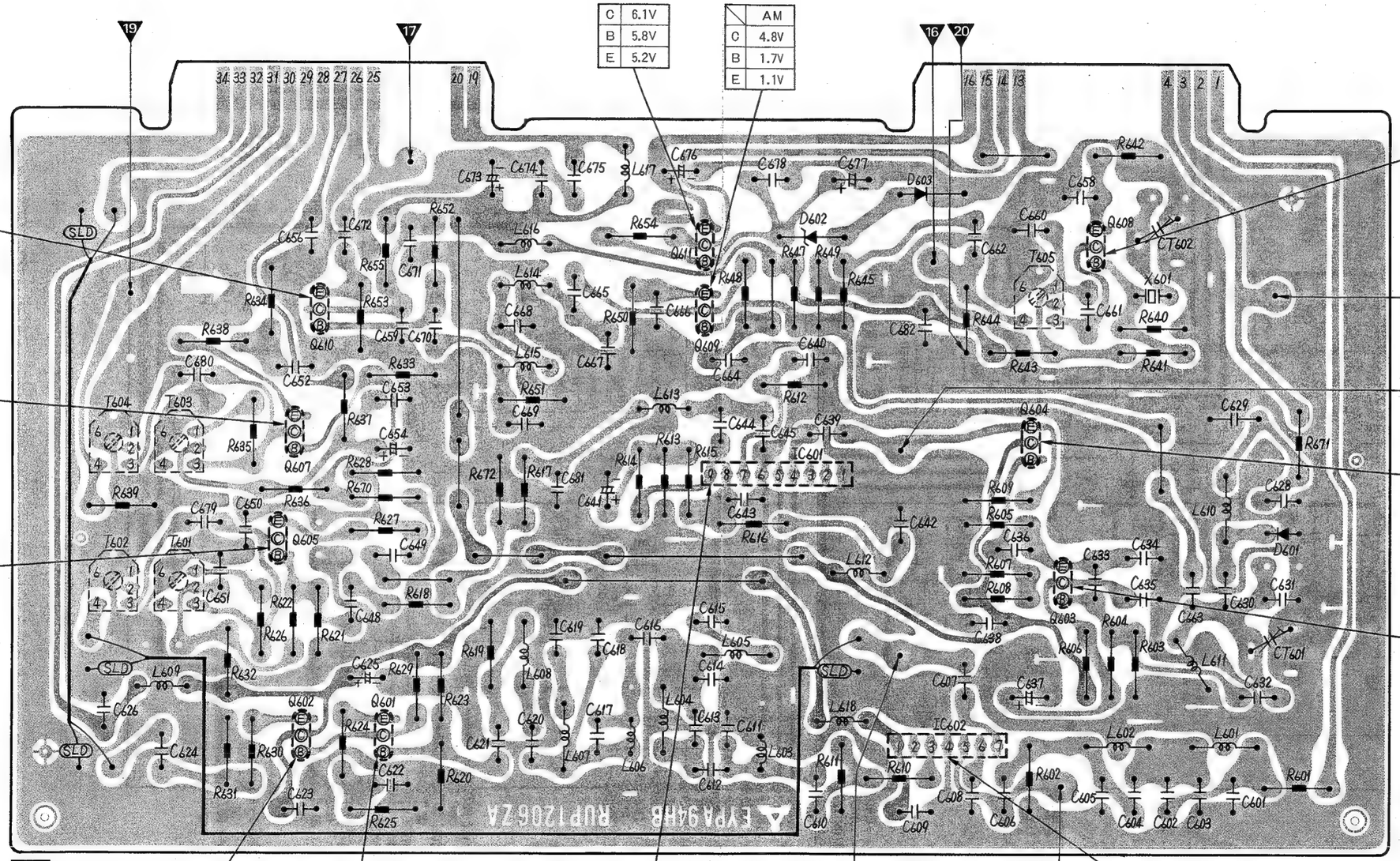
Bemerkungen:

1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B: ▼= Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom

Remarques:

1. La marque (▼) signale un point de vérification. Ex.: ▼ =point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmétre électronique

CIRCUIT BOARD WIRING VIEW (6 UP) . . . 2nd PLL, VCO & MIX CIRCUIT



Q611

C	6.1V
B	5.8V
E	5.2V

Q609

	AM
C	4.8V
B	1.7V
E	1.1V

Q610

	AM
C	5.7V
B	3.3V
E	2.6V

Q607

	SW2~5
C	5.6V
B	1.7V
E	0.9V

Q605

	LW,MW,SW1
C	5.6V
B	1.6V
E	0.9V

Q608

	AM
C	5.2V
B	1.3V
E	1.7V

Q604

	AM
C	6V
B	3.4V
E	2.7V

Q603

	AM
C	5.2V
B	2V
E	1.5V

Q602

	LW,MW,SW1
C	6V
B	4.7V
E	3.9V

Q601

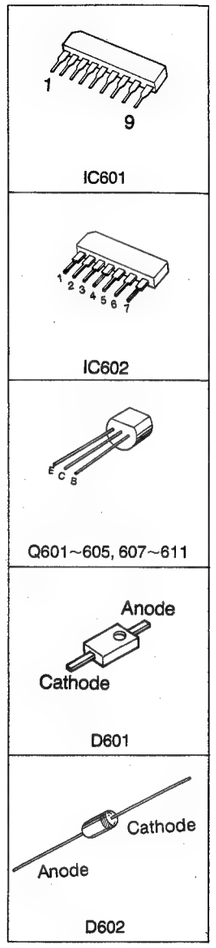
	LW,MW,SW1
C	4.7V
B	2.1V
E	1.4V

IC601

	1	2	3	4	5	6	7	8	9
AM	0V	3.8V	1.8V	1.8V	0V	0V	1.8V	4.9V	0.5V

IC602

	1	2	3	4	5	6	7
LW,MW,SW1	6V	5.2V	4.5V	0V	2.6V	2.6V	2.6V



CIRCUIT BOARD WIRING VIEW (5 UP) . . . IF, DET, BPF, SSB & AM METER CIRCUIT

Q510

	AM USB/LSB
C	4.9V
B	1.7V
E	1.1V

Q512

	SSB
C	4.67V
B	2.03V
E	1.39V

Q509

	AM
C	0V
B	0.7V
E	0V

Q511

	AM
C	4.66V
B	2.05V
E	1.41V

Q514

	AM
C	0.42V
B	1.04V
E	0.37V

Q505

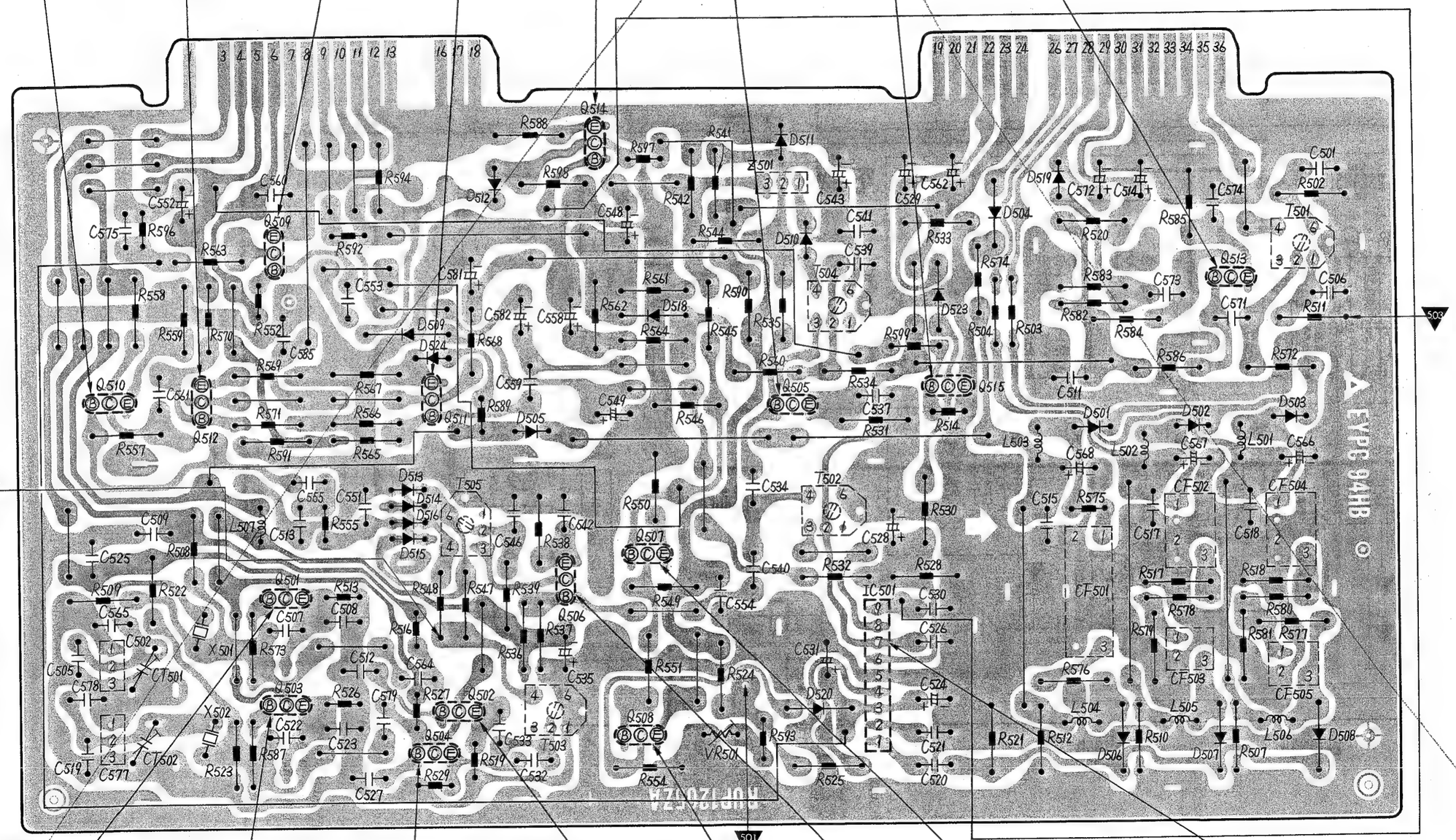
	AM
C	4.9V
B	1.2V
E	0.5V

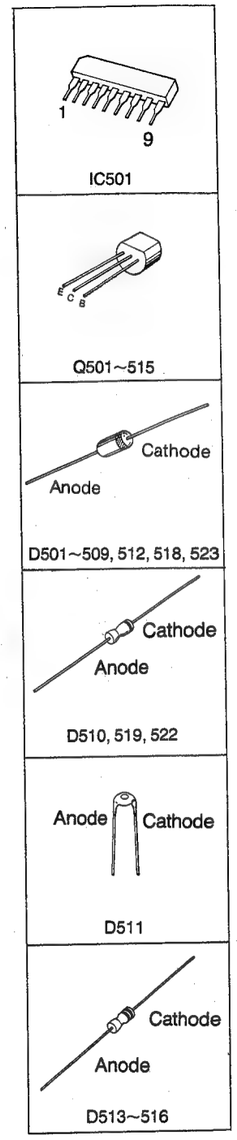
Q515

	AM	SSB
C	0V	0V
B	0V	0.6V
E	0V	0V

Q513

	AM
C	4.9V
B	1.5V
E	0.8V





Q501

	AM USB	AM LSB
C	5.9V	5.9V
B	2.6V	0V
E	2V	0V

Q503

	AM USB	AM LSB
C	5.9V	5.9V
B	0V	2.6V
E	0V	2.0V

Q504

	AM USB	AM LSB
C	6V	6V
B	0V	3.8V
E	0V	3.1V

Q502

	AM USB	AM LSB
C	5.9V	5.9V
B	3.8V	0V
E	3.1V	0V

Q508

	AM
C	0V
B	5.6V
E	6V

Q506

	AM USB/LSB
C	3.9V
B	1.7V
E	1V

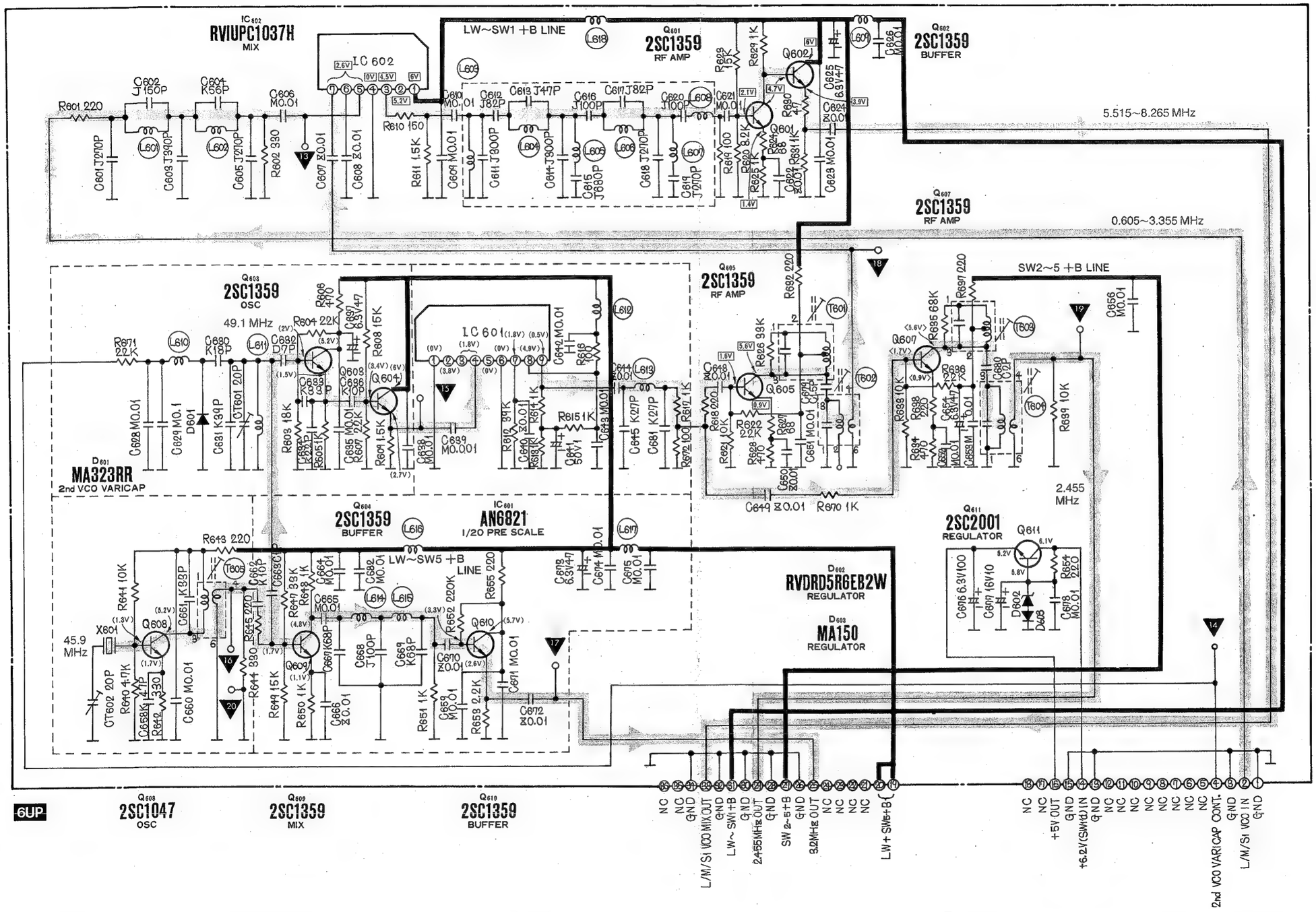
Q507

	AM
C	5.6V
B	0.7V
E	0.1V

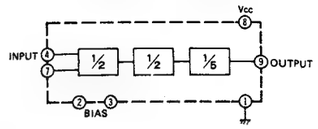
IC501

	1	2	3	4	5	6	7	8	9
AM	1.1V	1.1V	0V	0.5V	0V	0.2V	6.0V	6.0V	1.1V

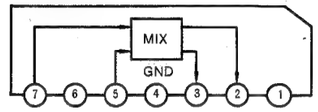
SCHEMATIC DIAGRAM (6 UP) . . .2nd PLL ,VCO & MIX CIRCUIT



IC601 AN6821



IC602 RVIUPC1037H



6UP

Notes:

1. The mark (▼) shows test point, e.g. ▼ =test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ]. . . LW, MW, SW1 position, ( ) . . . AM position,
   < >. . . SW2~SW5 position.

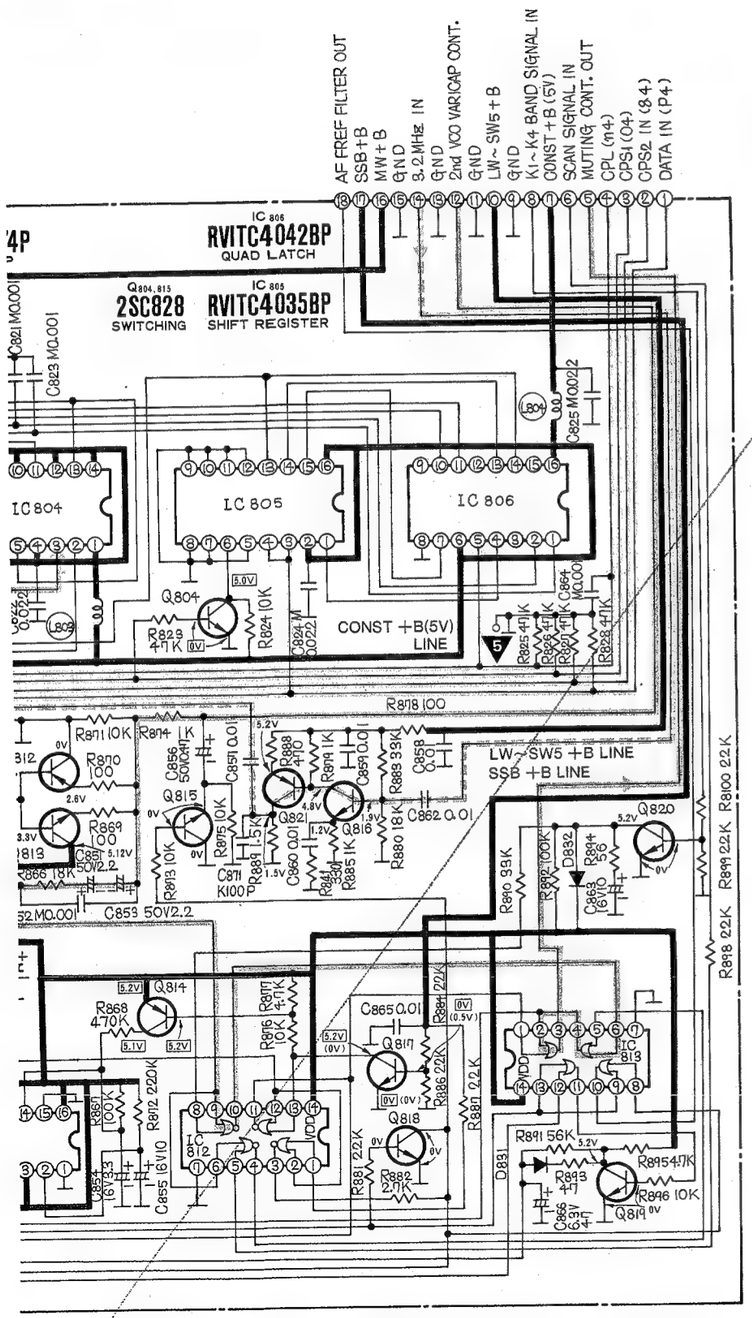
Bemerkungen:

1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B:▼= Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
   [ ]. . . Stellung „LW, MW, KW1", ( ) . . . Stellung „AM",
   < >. . . Stellung „KW2~KW5".

Remarques:

1. La marque (▼) signale un point de vérification. Ex.: ▼ =point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.
   [ ]. . . Position GO, PO, OC1, ( ) . . . Position AM,
   < >. . . Position OC2~OC5.

st, 2nd PLL & CONTROL CIRCUIT



8BP	Q813 2SC828	Q814 2SA564	Q821 2SA838	Q817~820 2SC828	D831 MA150TA
RATOR	LPF AMP	SWITCHING	PLL RF AMP	SWITCHING	DISCHARGER
					IC813 RVITC4071BP QUAD 2 INPUT OR GATE
	IC812 RVITC4001BP QUAD 2 INPUT NOR GATE		Q816 2SC1047 PLL RF AMP	D832 MA150TA DISCHARGER	

Notes:

1. The mark (▼) shows test point, e.g. ▼ =test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.

[ ] . . . MW position, ( ) . . SSB position.

Bemerkungen:

1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B: ▼ = Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.

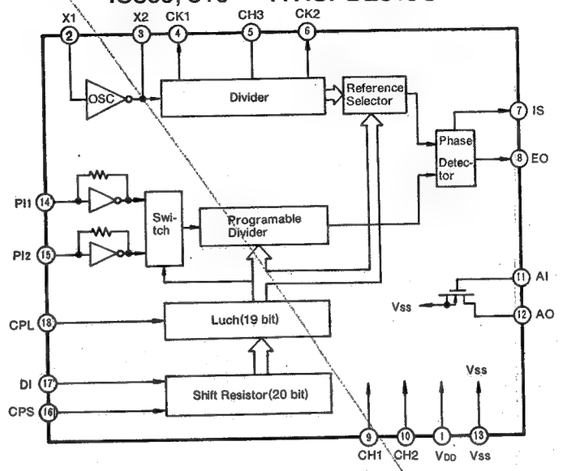
[ ] . . Stellung „MW", ( ) Stellung „SSB".

Remarques:

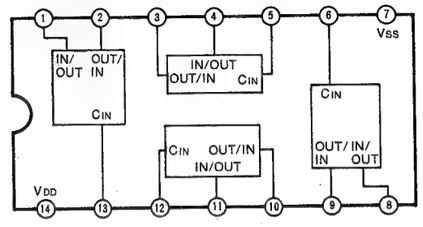
1. La marque (▼) signale un point de vérification. Ex.: ▼ =point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.

[ ] . . . Position PO, ( ) . . Position SSB.

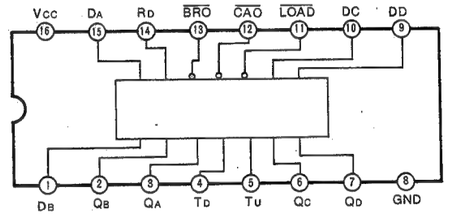
IC809, 810 RVIUPD2819C



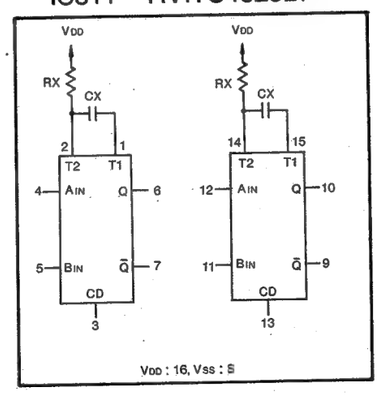
IC807 RVITC4016BP



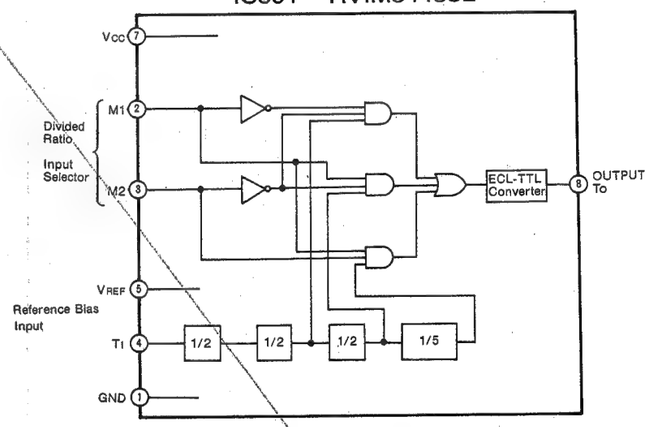
IC803 RVIM74LS192P



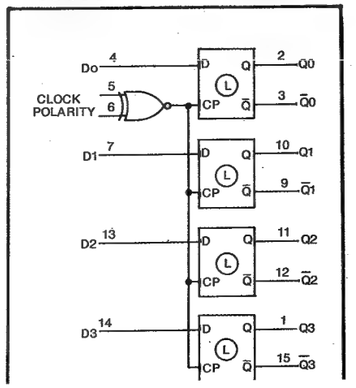
IC811 RVITC4528BP



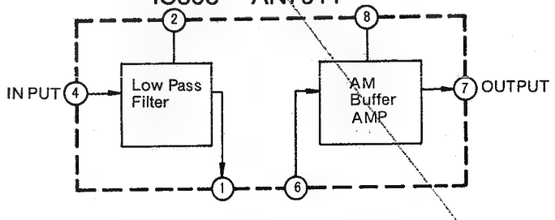
IC801 RVIM54455L



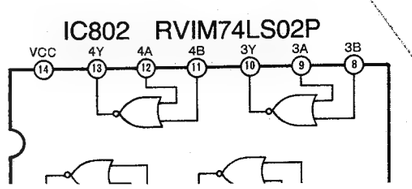
IC806 RVITC4042BP



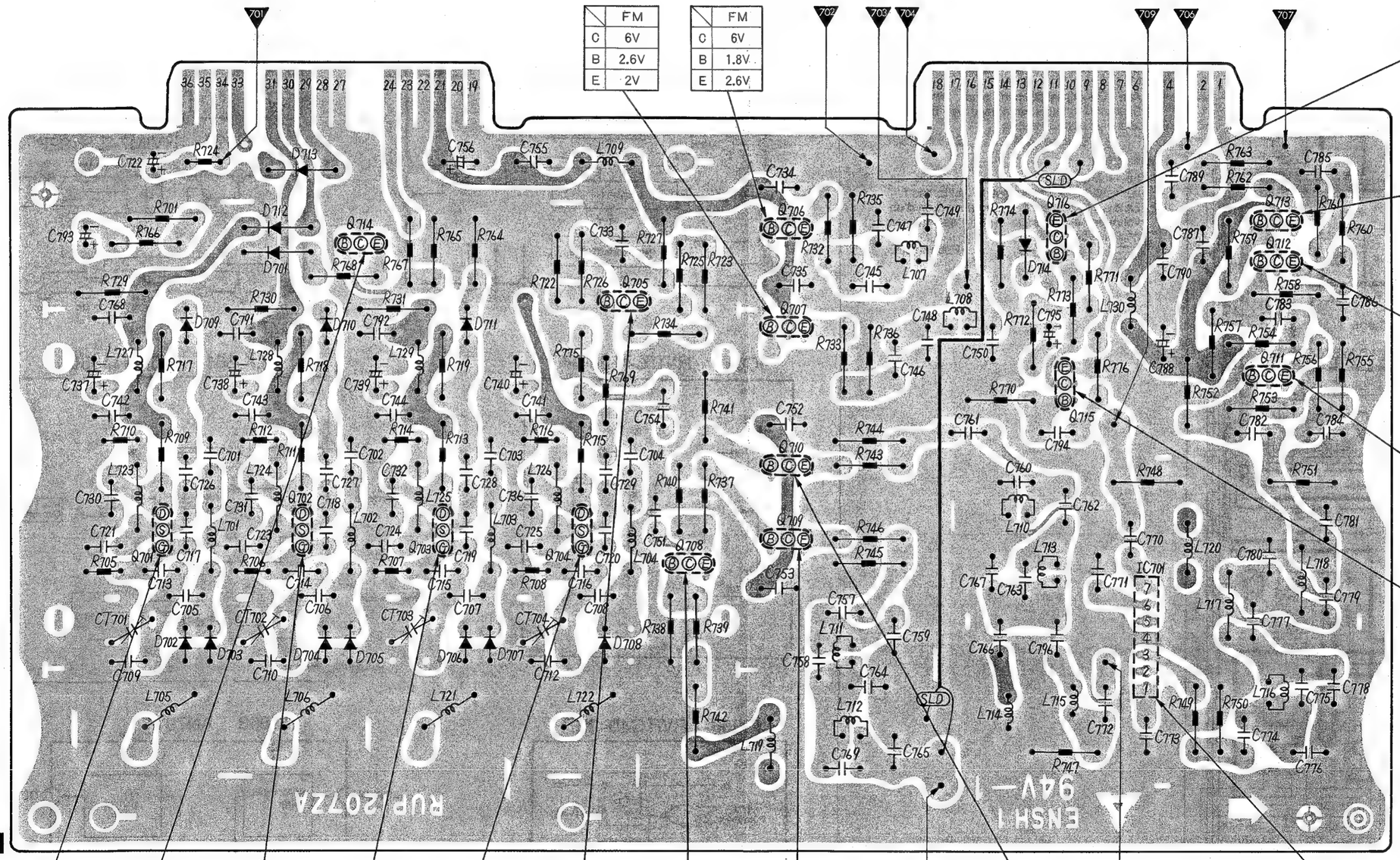
IC808 AN7911



IC802 RVIM74LS02P



CIRCUIT BOARD WIRING VIEW (7 UP) . . . SW2~5, FM VCO, MIX & MUTING CIRCUIT



Q707

	FM
C	6V
B	2.6V
E	2V

Q706

	FM
C	6V
B	1.8V
E	2.6V

Q716

C	0V
B	6V
E	6.1V

Q713

	SW2~5
C	6V
B	5.2V
E	4.4V

Q712

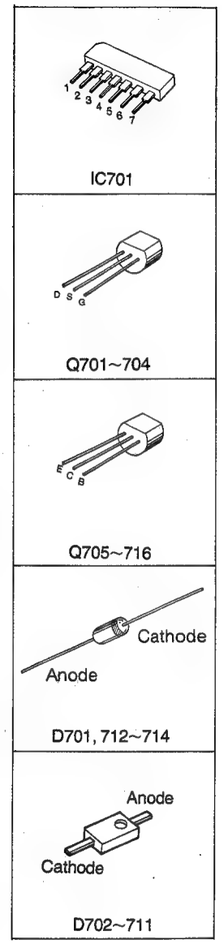
	SW2~5
C	5.2V
B	1.8V
E	1V

Q711

	SW2~5
C	5.2V
B	1.8V
E	1.1V

Q715

C	6V
B	0V
E	0V



Q701

	SW2,3
D	4.6V
G	0V
S	0.4V

Q714

C	0V
B	0.5V
E	0V

Q702

	SW4
D	5.4V
G	0V
S	0.4V

Q703

	SW5
D	5.3V
G	0V
S	0.4V

Q704

	FM
D	5.5V
G	0V
S	0.5V

Q705

	FM
C	5.6V
B	3.5V
E	2.7V

Q708

	SW2~5
C	5.4V
B	3.3V
E	2.6V

Q709

	SW2~5
C	5.4V
B	2.6V
E	1.8V

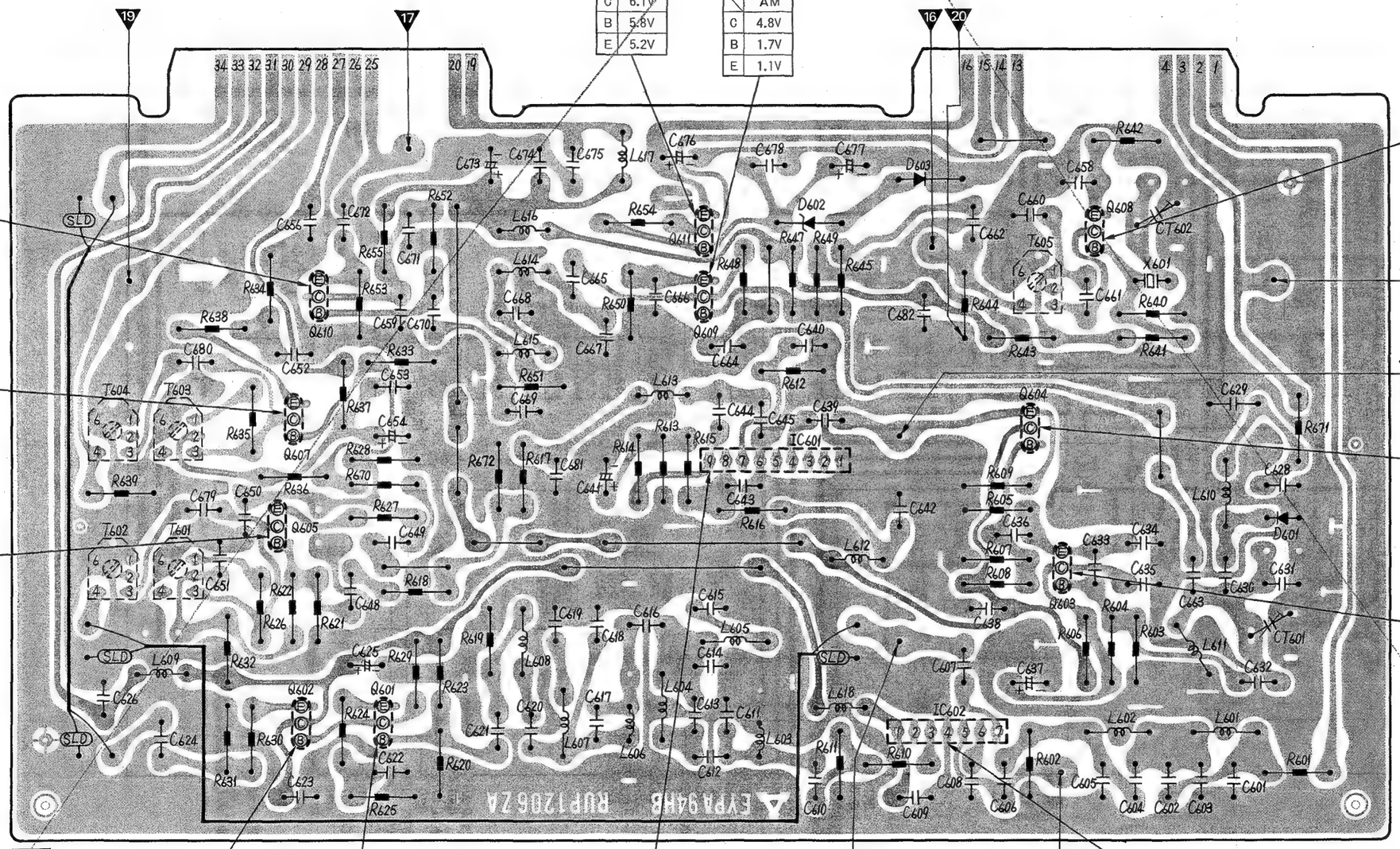
Q710

	SW2~5
C	5.4V
B	1.7V
E	1V

IC701

	1	2	3	4	5	6	7
SW2~5	5.9V	5.2V	4.5V	0V	2.6V	2.6V	2.6V

CIRCUIT BOARD WIRING VIEW (6 UP) . . . 2nd PLL, VCO & MIX CIRCUIT



Q611

C	6.1V
B	5.8V
E	5.2V

Q609

	AM
C	4.8V
B	1.7V
E	1.1V

Q608

	AM
C	5.2V
B	1.3V
E	1.7V

Q610

	AM
C	5.7V
B	3.3V
E	2.6V

Q607

	SW2~5
C	5.6V
B	1.7V
E	0.9V

Q605

	LW,MW,SW1
C	5.6V
B	1.6V
E	0.9V

Q604

	AM
C	6V
B	3.4V
E	2.7V

Q603

	AM
C	5.2V
B	2V
E	1.5V

Q602

	LW,MW,SW1
C	6V
B	4.7V
E	3.9V

Q601

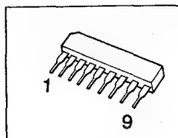
	LW,MW,SW1
C	4.7V
B	2.1V
E	1.4V

IC601

	1	2	3	4	5	6	7	8	9
AM	0V	3.8V	1.8V	1.8V	0V	0V	1.8V	4.9V	0.5V

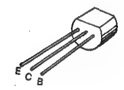
IC602

	1	2	3	4	5	6	7
LW,MW,SW1	6V	5.2V	4.5V	0V	2.6V	2.6V	2.6V

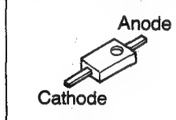


IC601

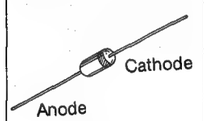
IC602



Q601~605, 607~611



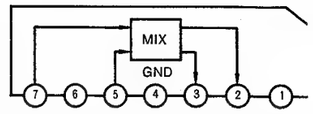
D601

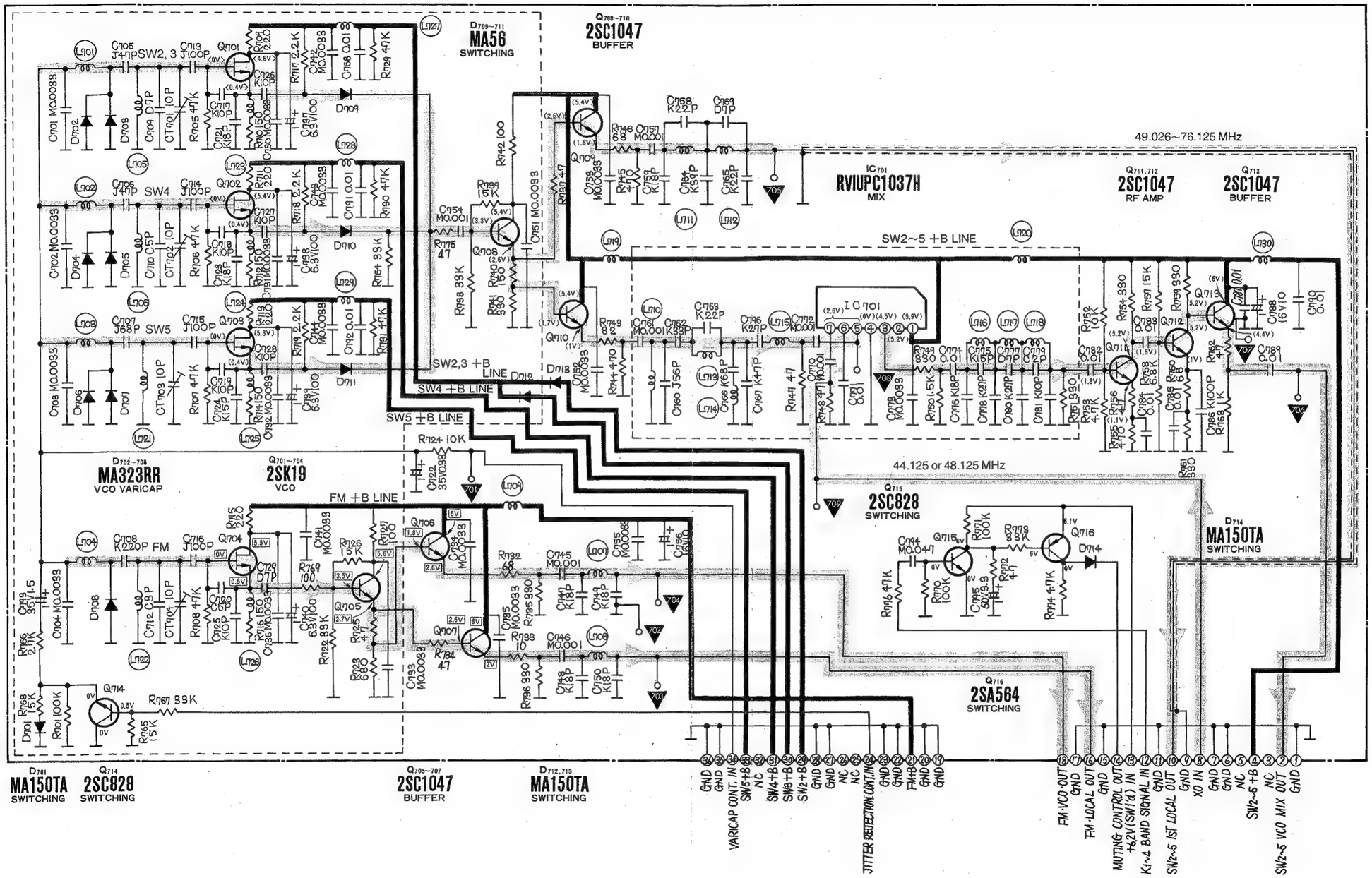


D602

SCHEMATIC DIAGRAM (7 UP) . . . SW2~5, FM VCO, MIX & MUTING CIRCUIT

IC701 RVIUPC1037H





Notes:

1. The mark (▼) shows test point, e.g. ▼ = test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ] . . . FM position, ( ) . . . SW2~SW5 position,
   〈 〉. . . SW2, 3 position, 《 》. . . SW4 position,
   [ ] . . . SW5 position.

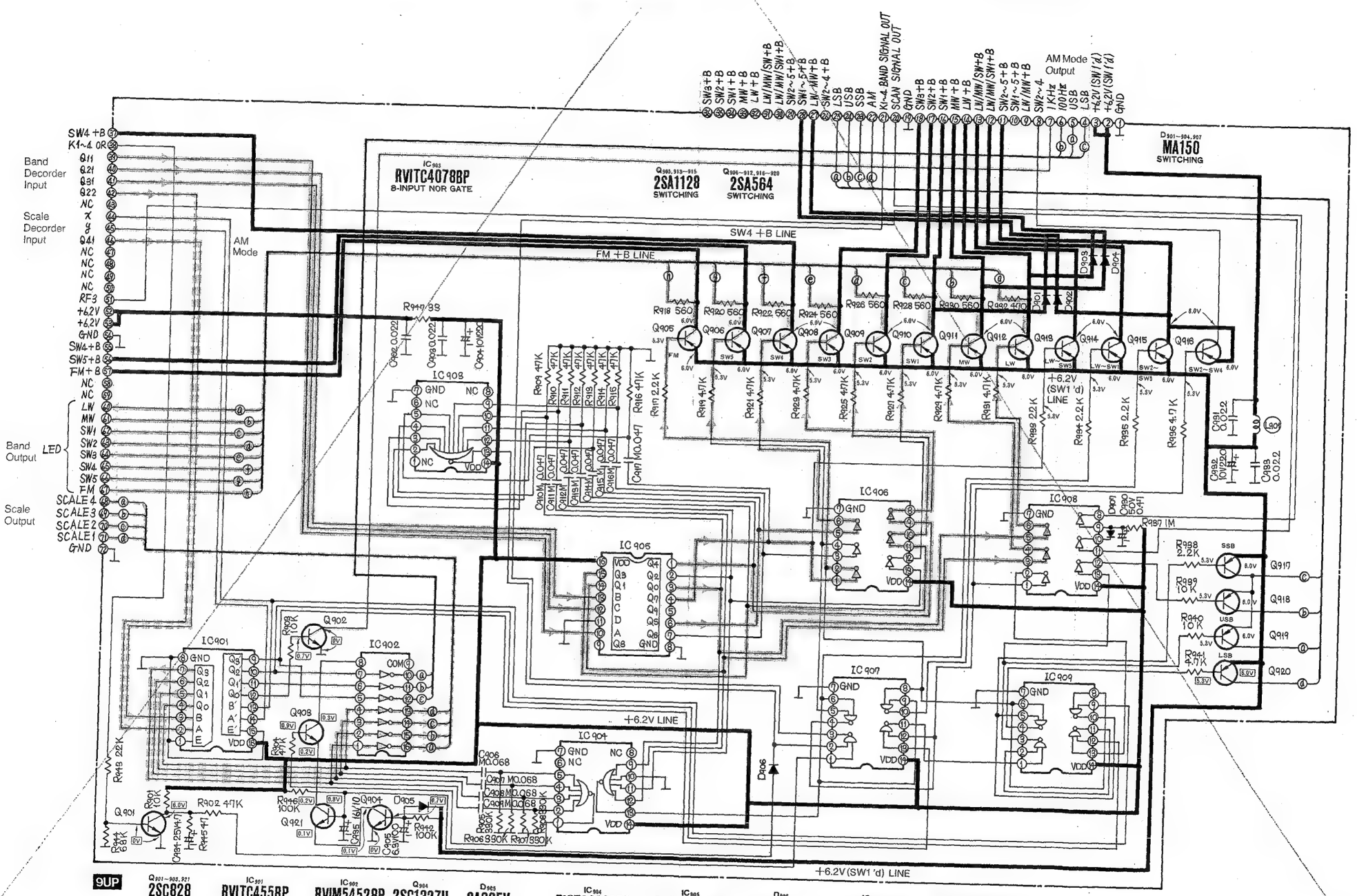
Bemerkungen:

1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B: ▼= Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
   [ ] . . . Stellung „FM", ( ) . . . Stellung „KW2~KW5",
   〈 〉. . . Stellung „KW2, KW3", 《 》. . . Stellung „KW4",
   [ ] . . . Stellung „KW5".

Remarques:

1. La marque (▼) signale un point de vérification. Ex.: ▼ = point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.
   [ ] . . . Position FM, ( ) . . . Position OC2~OC5,
   〈 〉. . . Position OC2, OC3, 《 》. . . Position OC4,
   [ ] . . . Stellung OC5.

SCHEMATIC DIAGRAM (9 UP) . . . RADIO CONTROL-2 CIRCUIT

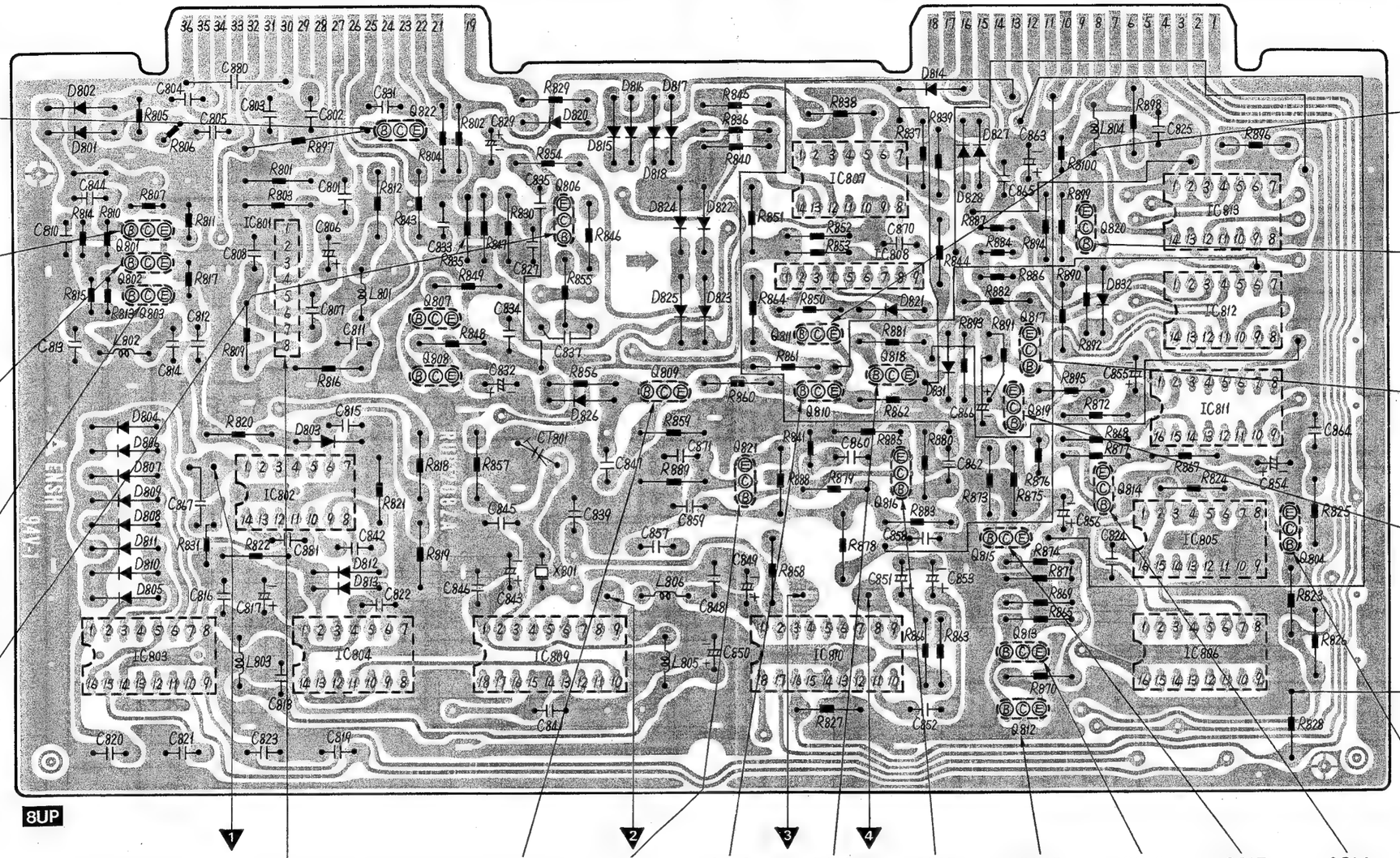


Note:
DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
[ ] . . AM position,

Bemerkungen:
Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
[ ] . . Stellung „AM",

Remarque:
La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir e la borne négative de la pile.
[ ] . . Position AM,

CIRCUIT BOARD WIRING VIEW (8 UP) . . . 1st, 2nd PLL & CONTROL CIRCUIT



Q822

	AM
C	0.7V
B	0V
E	0V

Q801

	AM
C	5.89V
B	2.09V
E	1.34V

Q802

	AM
C	4.15V
B	2.09V
E	1.34V

Q803

	AM
C	5.89V
B	4.15V
E	3.94V

Q806

	AM
C	0V
B	0V
E	0V

Q811

	AM
C	5.1V
B	4.2V
E	3.5V

Q820

	AM
C	5.2V
B	0V
E	0V

Q817

	MW	SSB
C	5.2V	0V
B	0V	0.7V
E	0V	0V

Q819

	AM
C	5.2V
B	0V
E	0V

804

	MW
C	5.0V
B	0V
E	0V

IC801

	1	2	3	4	5	6	7	8
AM	0V	0V	0V	2.8V	2.8V	0V	5.7V	0.6V

Q809

	AM
C	0V
B	5.0V
E	5.1V

Q821

	AM
C	1.5V
B	4.8V
E	5.2V

Q810

	AM
C	5.0V
B	0V
E	3.5V

Q818

	AM
C	0V
B	0V
E	0V

Q816

	AM
C	4.8V
B	1.9V
E	1.2V

Q812

	AM
C	0V
B	3.3V
E	2.6V

Q813

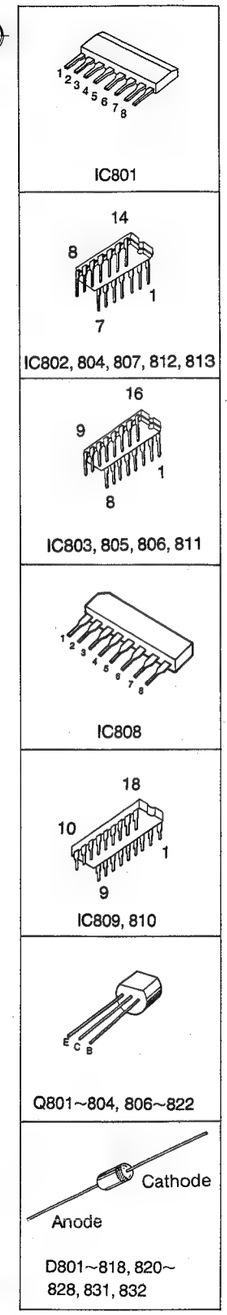
	AM
C	5.12V
B	3.3V
E	2.6V

Q815

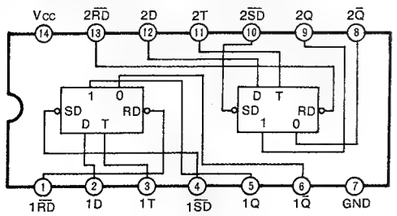
	AM
C	0V
B	0V
E	0V

Q814

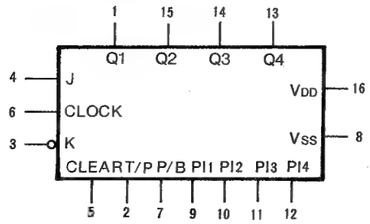
	MW
C	5.1V
B	5.2V
E	5.2V



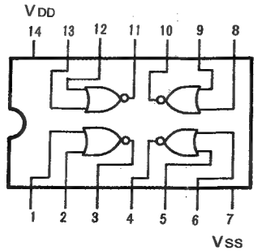
IC804 RVIM74LS74P



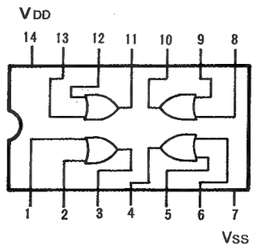
IC805 RVITC4035BP



IC812 RVITC4001BP

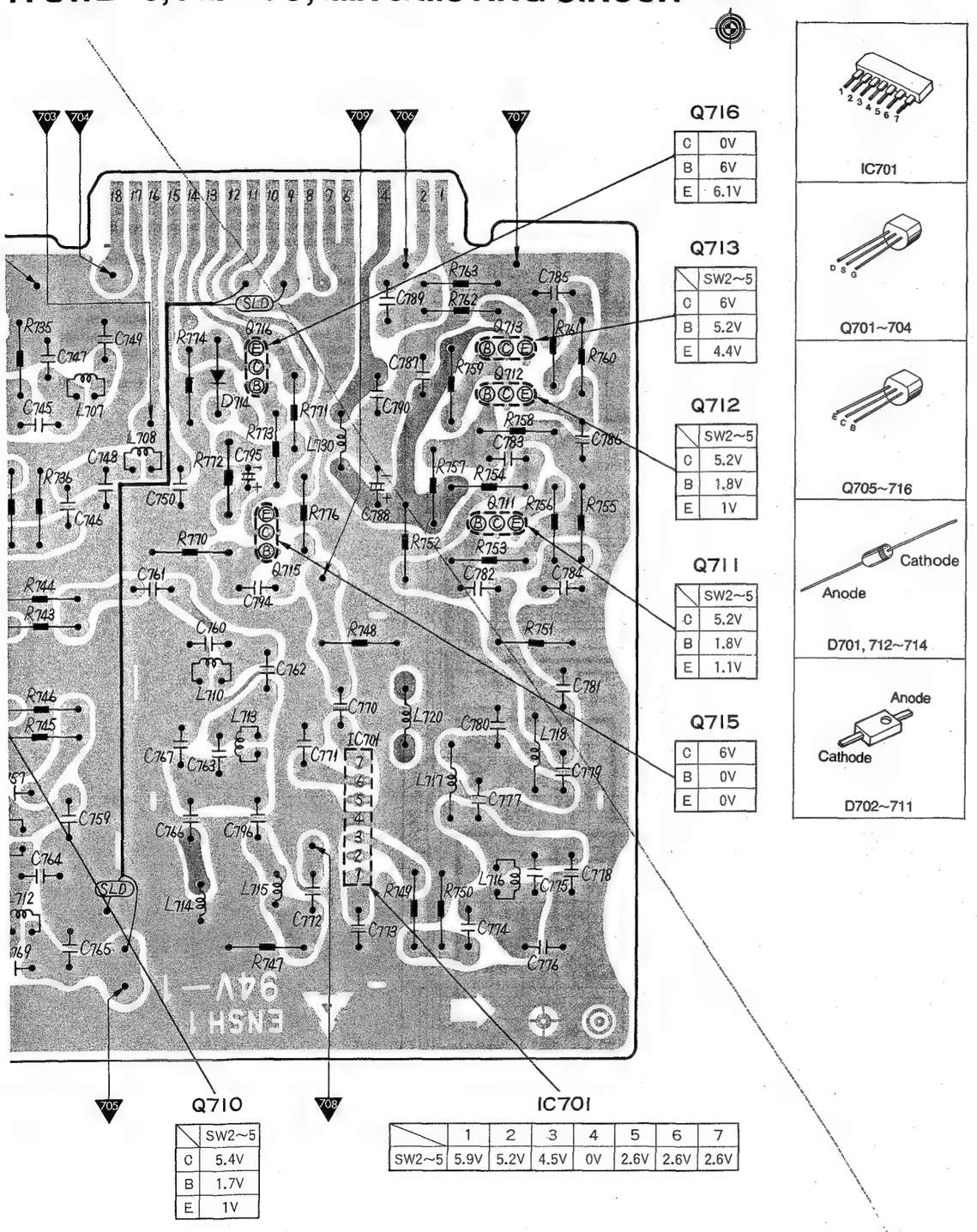


IC813 RVITC4071BP



7 UP 7 UP

.. SW2~5, FM VCO, MIX & MUTING CIRCUIT



Q716

C	0V
B	6V
E	6.1V

Q713

	SW2~5
C	6V
B	5.2V
E	4.4V

Q712

	SW2~5
C	5.2V
B	1.8V
E	1V

Q711

	SW2~5
C	5.2V
B	1.8V
E	1.1V

Q715

C	6V
B	0V
E	0V

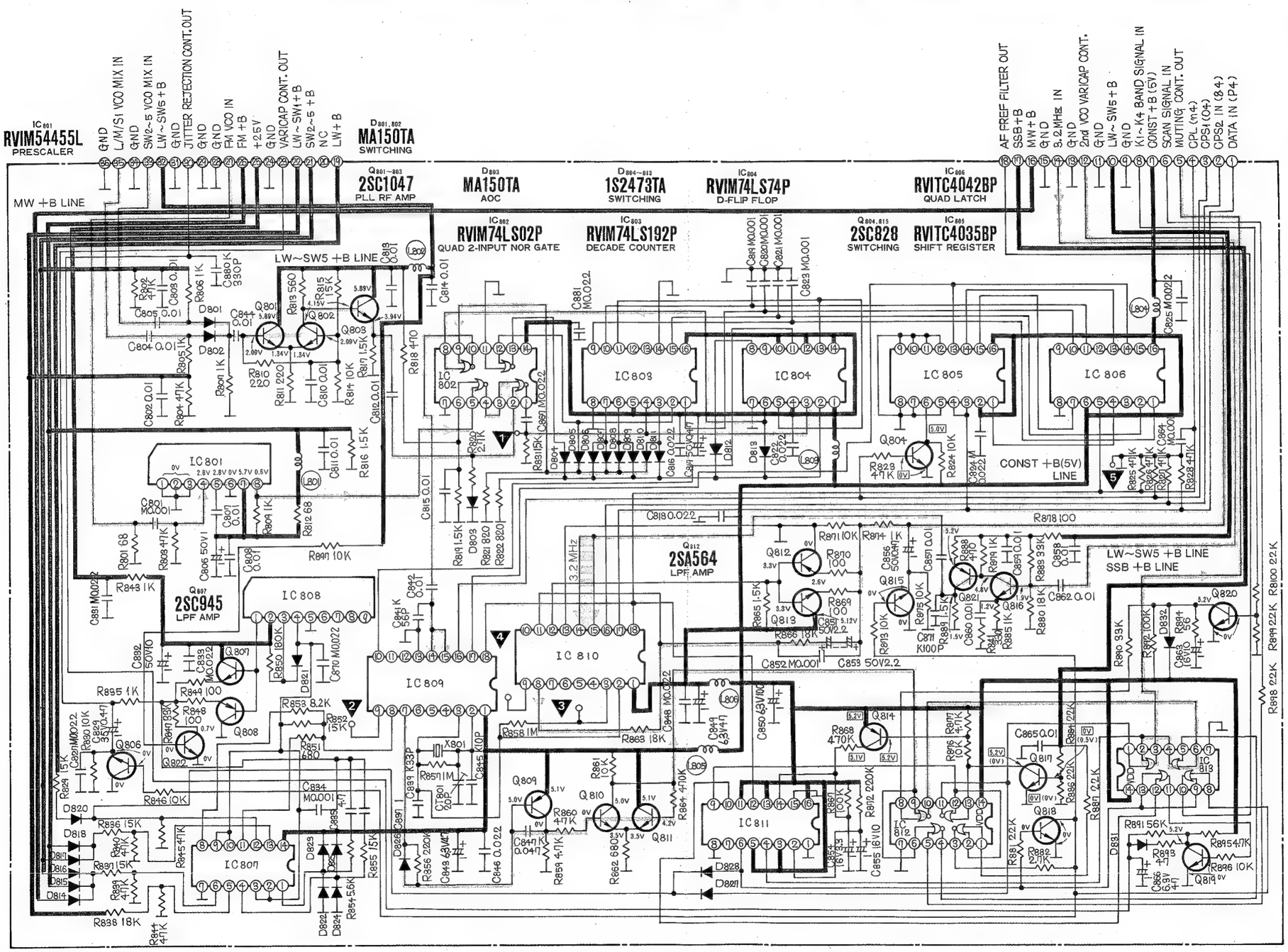
Q710

	SW2~5
C	5.4V
B	1.7V
E	1V

IC701

	1	2	3	4	5	6	7
SW2~5	5.9V	5.2V	4.5V	0V	2.6V	2.6V	2.6V

SCHEMATIC DIAGRAM (8 UP) . . . 1st, 2nd PLL & CONTROL CIRCUIT



Notes:

1. The mark (▼) shows test point, e.g. ▼ =test point 1.
2. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   [ ] . . . MW position, ( ) . . SSB position.

Bemerkungen:

1. Die Markierung (▼) bezeichnet einen Meßpunkt, z.B: ▼ = Meßpunkt 1.
2. Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
   [ ] . . Stellung „MW", ( ) Stellung „SSB".

Remarques:

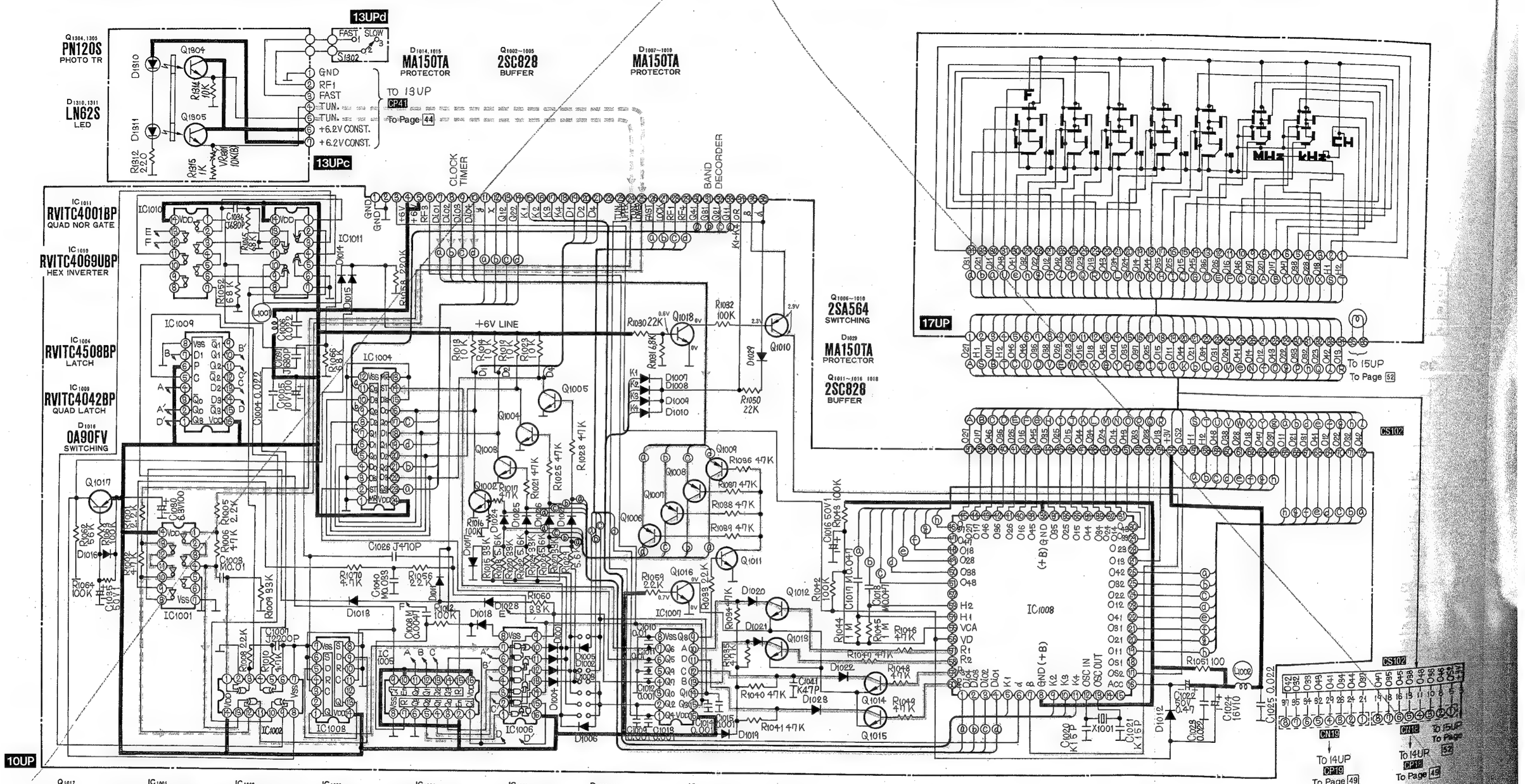
1. La marque (▼) signale un point de vérification. Ex.: ▼ =point de vérification 1.
2. La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir de la borne négative de la pile.
   [ ] . . . Position PO, ( ) . . Position SSB.

8UP

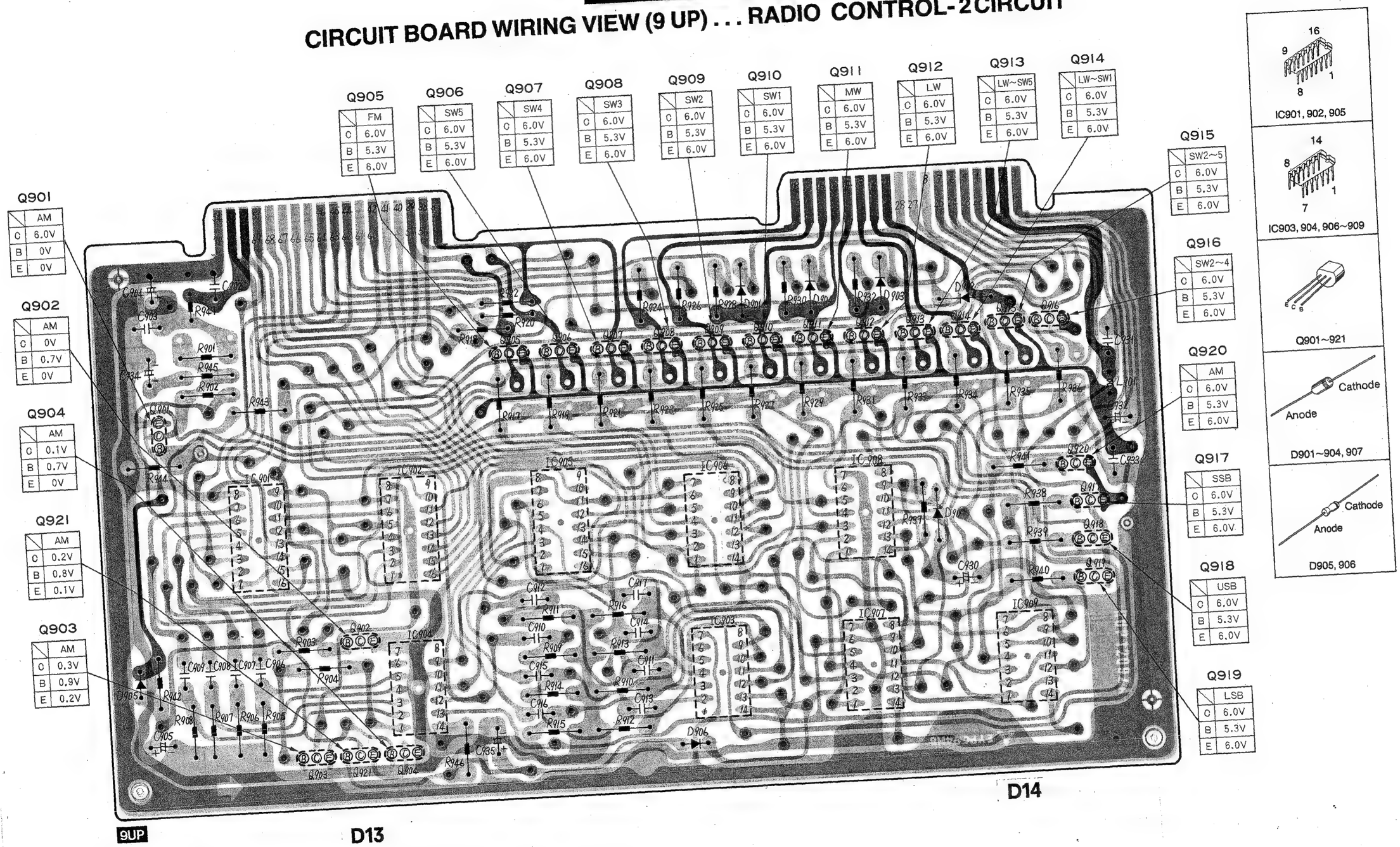
D814~818, 820	Q806	Q822	Q808	IC808	D822~825	IC809, 810	Q809	Q810, 811	D827, 828	IC811	Q813	Q814	Q821	Q817~820	D831	IC813
MA150TA	2SC945	2SC828	2SA564	AN7911	MA150TA	RVIUPD2819C	2SA564	2SC828	MA150TA	RVITC4528BP	2SC828	2SA564	2SA838	2SC828	MA150TA	RVITC4071BP
SWITCHING	SWITCHING	SWITCHING	LPF AMP	LPF	PROTECTOR	PLL	SWITCHING	SWITCHING	SWITCHING	MONO-MULTIVIBRATOR	LPF AMP	SWITCHING	PLL RF AMP	SWITCHING	DISCHARGER	QUAD 2 INPUT OR GATE

IC807	D821, 826	IC812	Q816	D832	
RVITC4016BP	MA150TA	RVITC4001BP	2SC1047	MA150TA	
BILATERAL SWITCH	SWITCHING	QUAD 2 INPUT NOR GATE	PLL RF AMP	DISCHARGER	

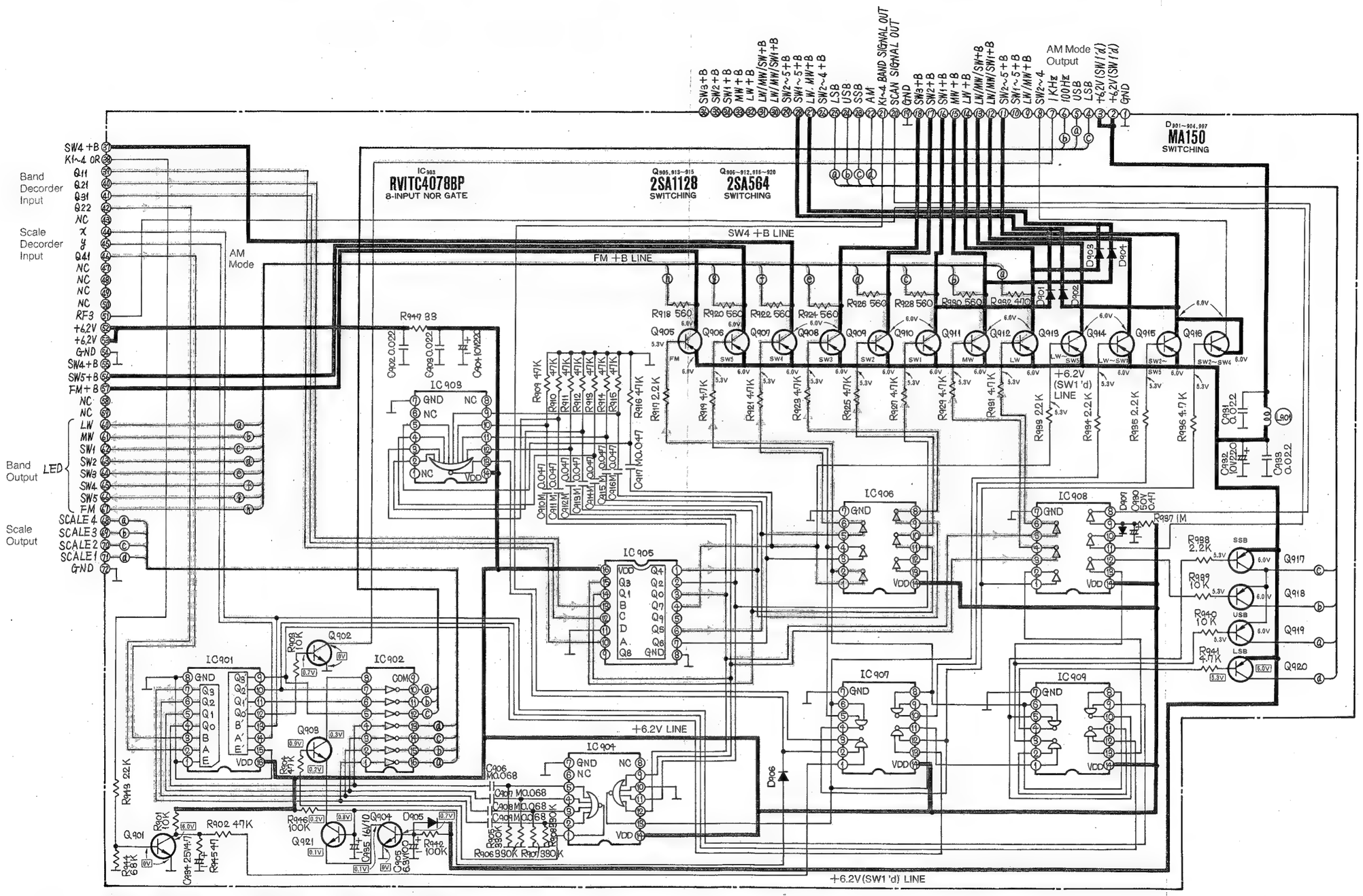
SCHEMATIC DIAGRAM (10 UP,13 UPc, d,17 UP). . RADIO CONTROL-1, μCOM BLOCK, TUNING & CLOCK CIRCUIT



CIRCUIT BOARD WIRING VIEW (9 UP) . . . RADIO CONTROL-2 CIRCUIT



SCHEMATIC DIAGRAM (9 UP) . . . RADIO CONTROL-2 CIRCUIT



9UP

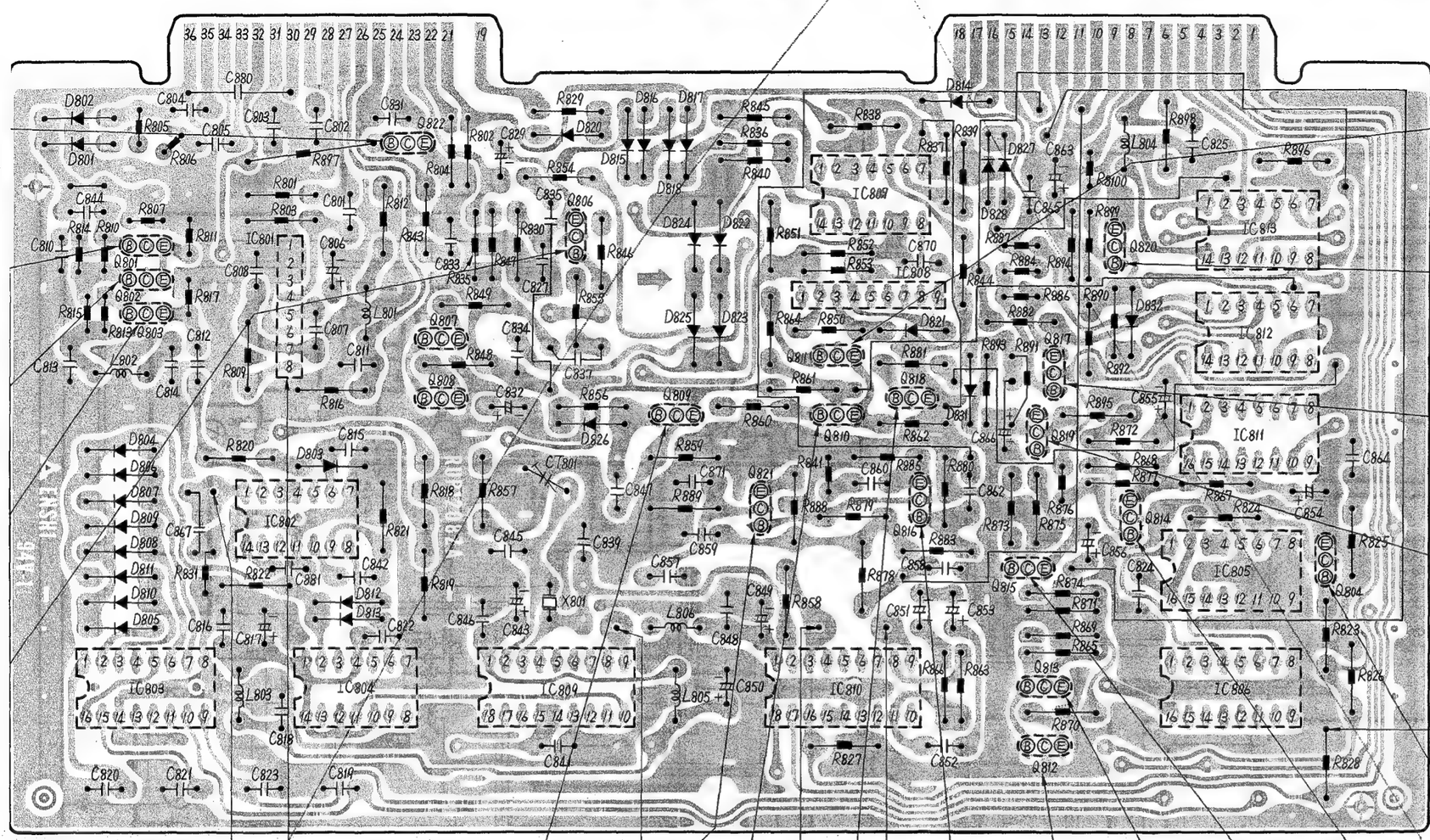
Q901~903,921	IC901	IC902	Q904	D905	IC904	IC905	D906	IC907,909	IC906,908
2SC828	RVITC455BP	RVIM54528P	2SC1327U	0A90FV	RVITC4002BP	RVITC4028BP	0A90FV	RVITC4011BP	RVITC4069UBP
SWITCHING	DUAL BINARY DECORDER	SWITCHING	SWITCHING	DISCHARGER	DUAL 4-INPUT NOR GATE	BCD DECORDER	DISCHARGER	QUAD 2-INPUT NAND GATE	HEX INVERTER

Note:
DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
[ ] . . AM position,

Bemerkungen:
Alle Gleichspannungen sind mit einem Elektronikvoltmeter vom negativen Batterieanschluß aus zu messen.
[ ] . . Stellung „AM",

Remarque:
La tension c.c. est mesurée au moyen d'un voltmétre électronique à partir e la borne négative de la pile.
[ ] . . Position AM,

CIRCUIT BOARD WIRING VIEW (8 UP) . . . 1st, 2nd PLL & CONTROL CIRCUIT



Q811

	AM
C	5.1V
B	4.2V
E	3.5V

Q820

	AM
C	5.2V
B	0V
E	0V

Q817

	MW	SSB
C	5.2V	0V
B	0V	0.7V
E	0V	0V

Q819

	AM
C	5.2V
B	0V
E	0V

804

	MW
C	5.0V
B	0V
E	0V

IC801

	1	2	3	4	5	6	7	8
AM	0V	0V	0V	2.8V	2.8V	0V	5.7V	0.6V

Q809

	AM
C	0V
B	5.0V
E	5.1V

Q821

	AM
C	1.5V
B	4.8V
E	5.2V

Q810

	AM
C	5.0V
B	0V
E	3.5V

Q818

	AM
C	0V
B	0V
E	0V

Q816

	AM
C	4.8V
B	1.9V
E	1.2V

Q812

	AM
C	0V
B	3.3V
E	2.6V

Q813

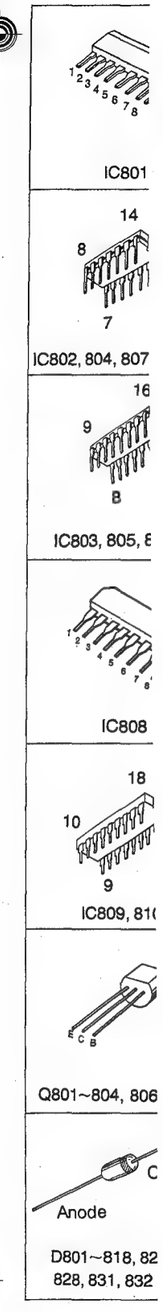
	AM
C	5.12V
B	3.3V
E	2.6V

Q815

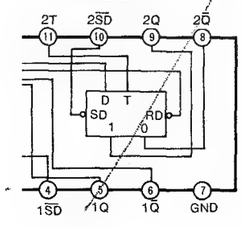
	AM
C	0V
B	0V
E	0V

Q814

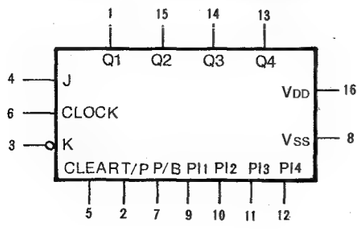
	MW
C	5.1V
B	5.2V
E	5.2V



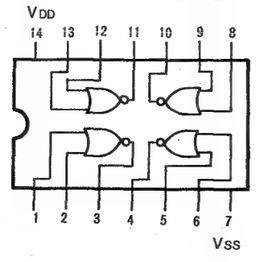
IVIM74LS74P



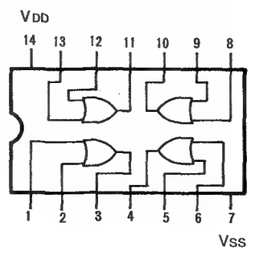
IC805 RVITC4035BP



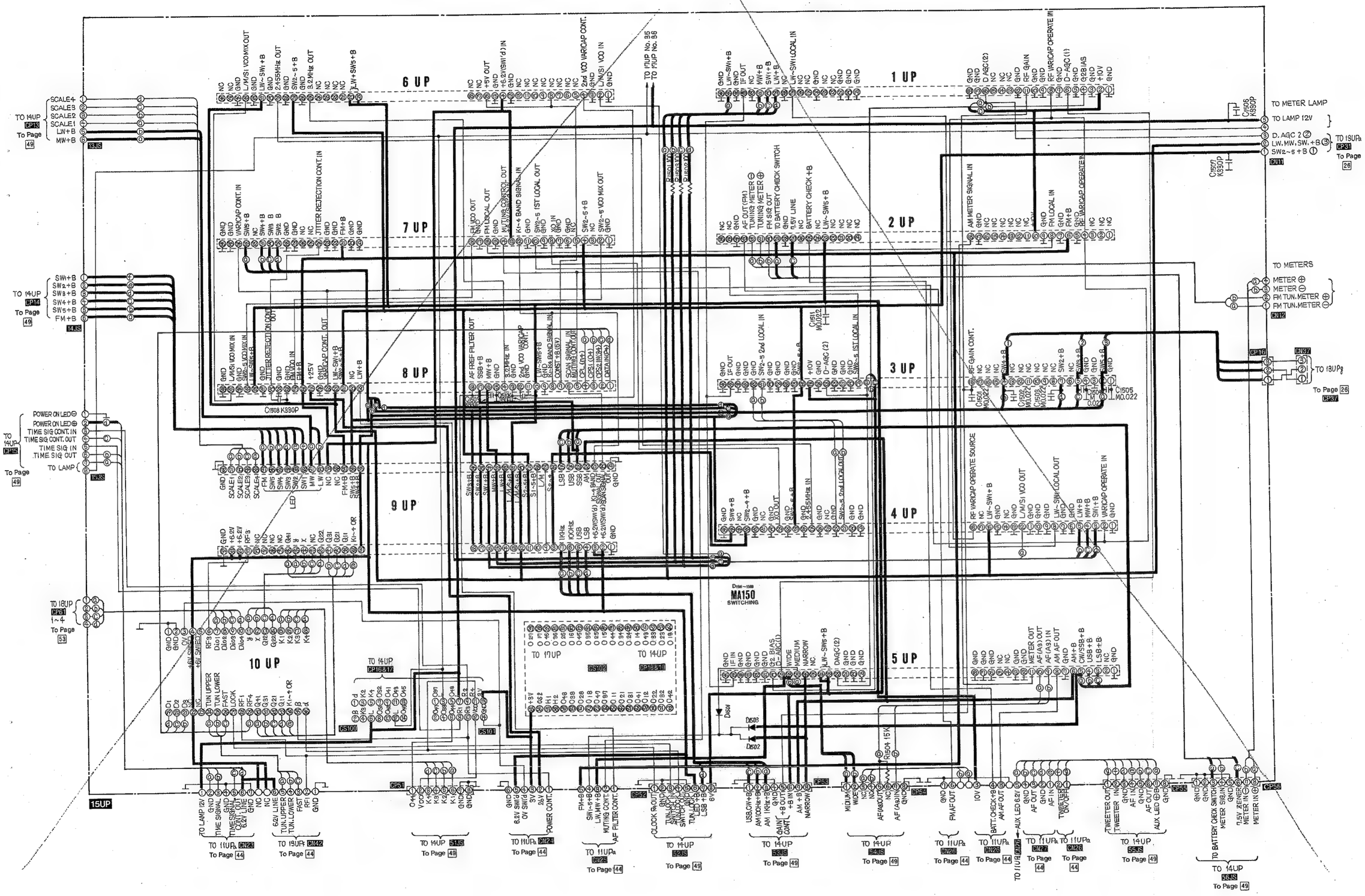
IC812 RVITC4001BP



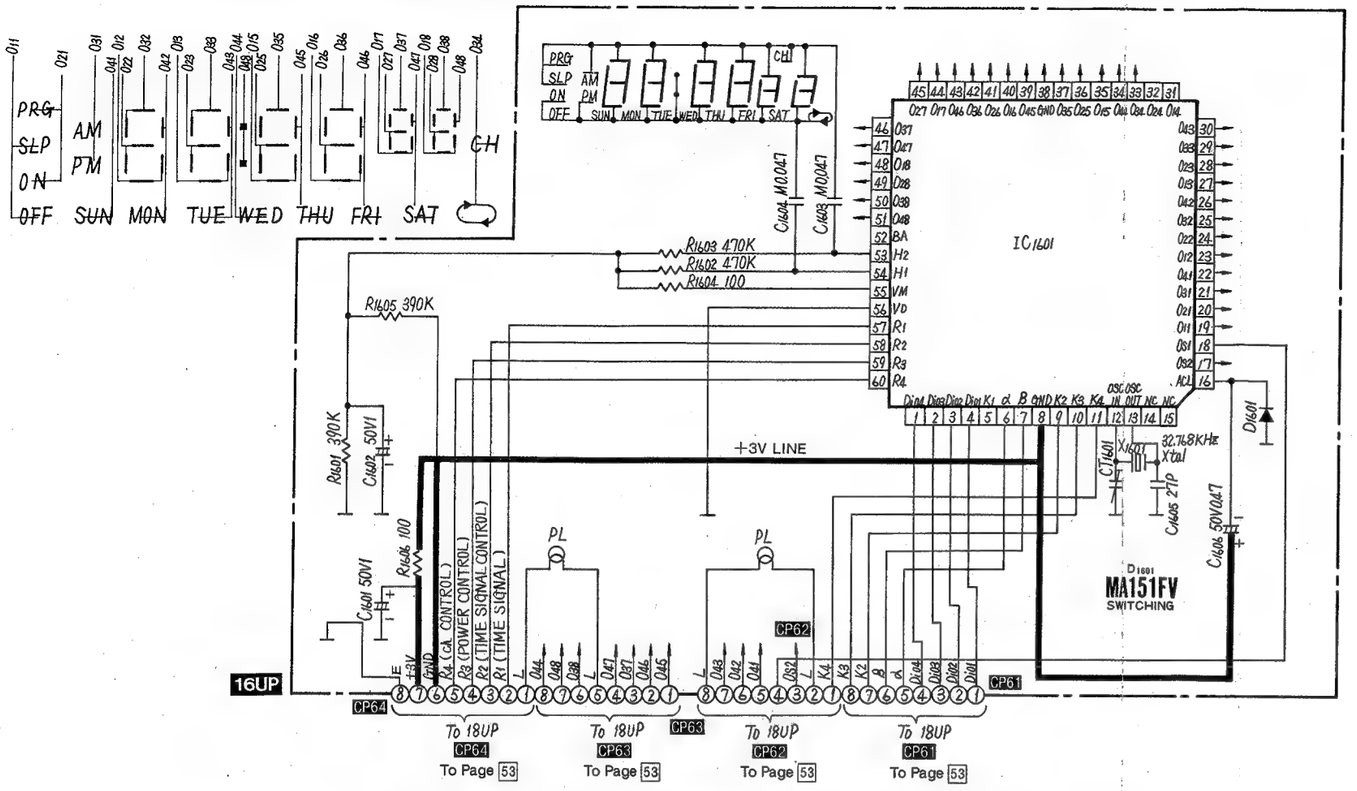
IC813 RVITC4071BP



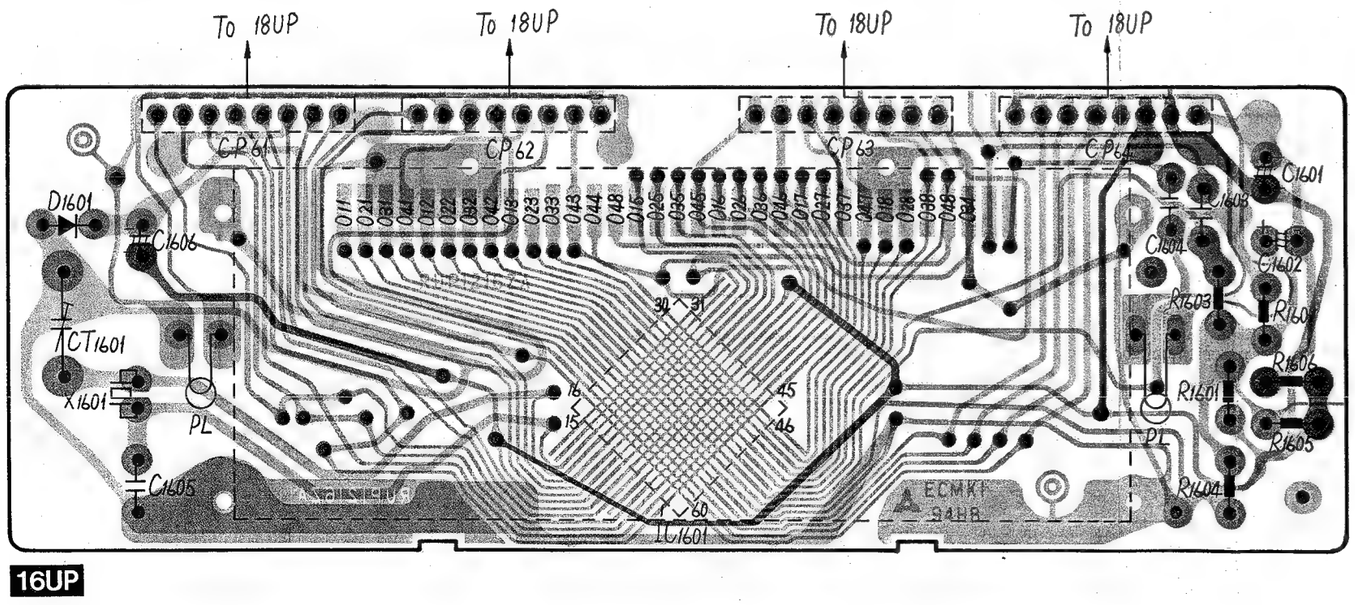
SCHEMATIC DIAGRAM (15 UP) . . . COMMON CIRCUIT



SCHEMATIC DIAGRAM (16 UP) . . . CLOCK CIRCUIT

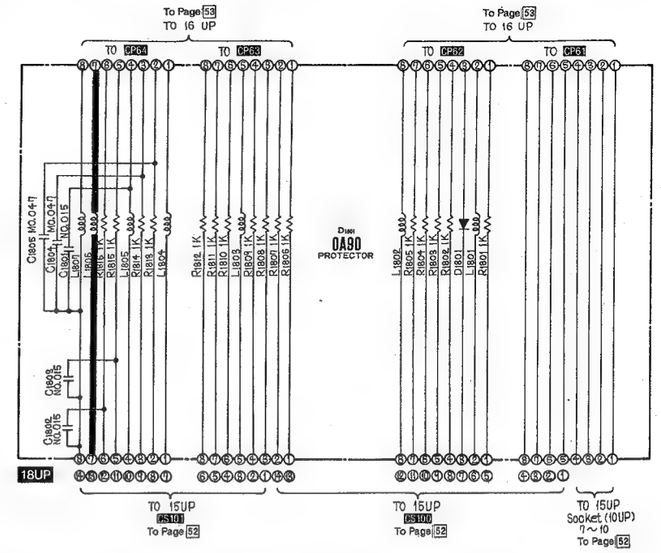


CIRCUIT BOARD WIRING VIEW (16 UP) . . . CLOCK CIRCUIT

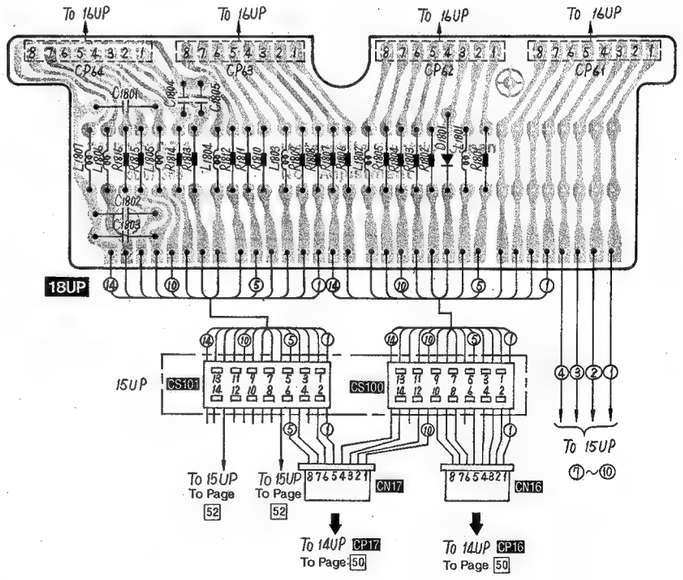


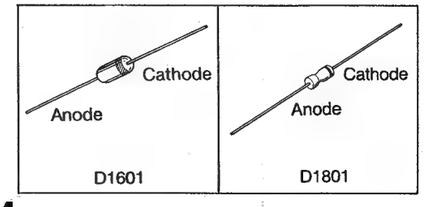
F13

SCHEMATIC DIAGRAM (18 UP) . . . COMMON CIRCUIT



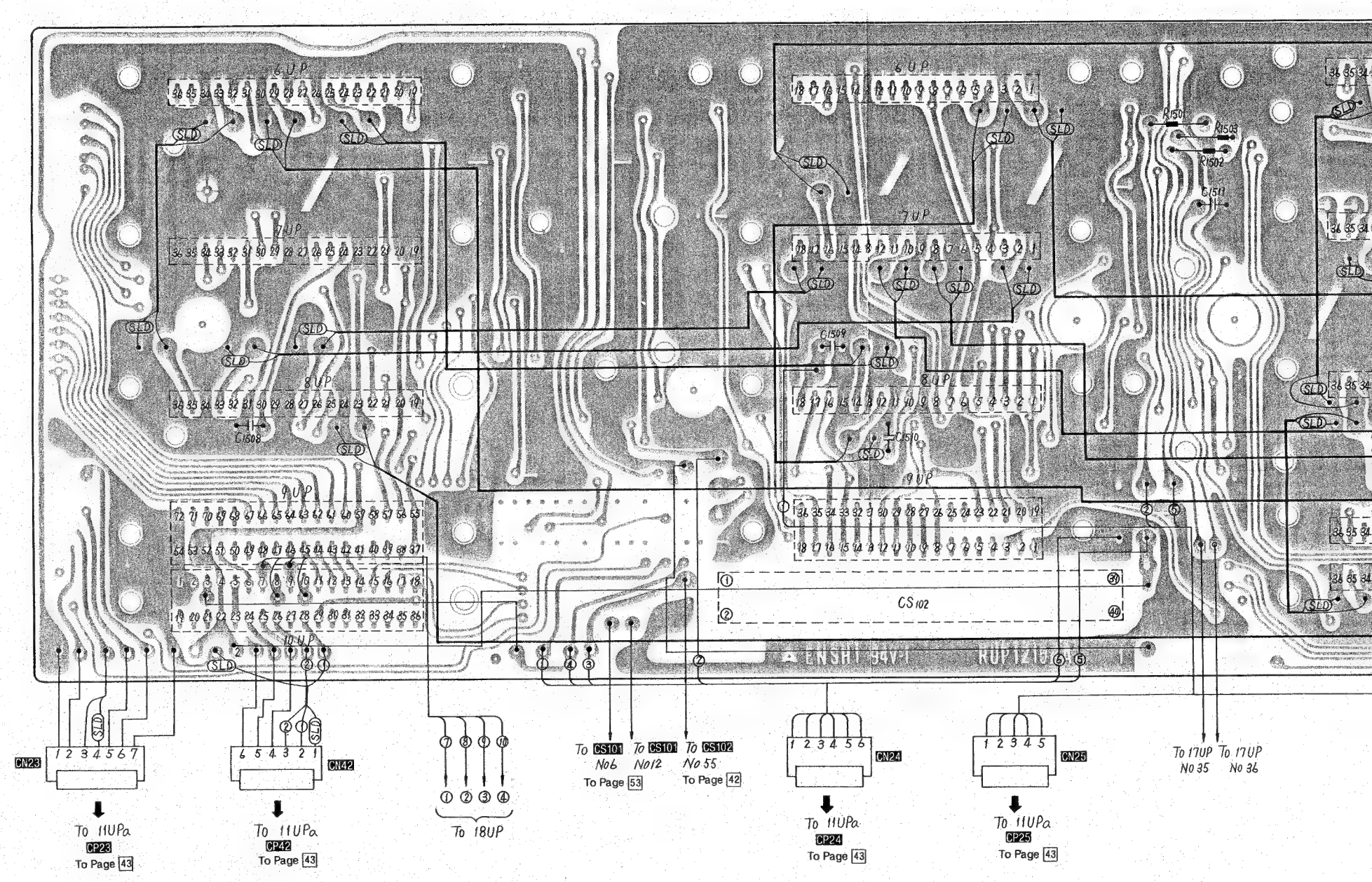
CIRCUIT BOARD WIRING VIEW (18 UP) . . . COMMON CIRCUIT

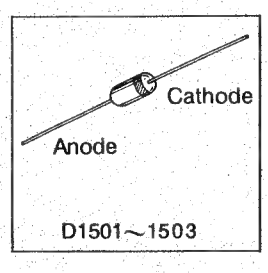




F14

CIRCUIT BOARD WIRING VIEW





CIRCUIT BOARD WIRING VIEW (3 UP, 13 UPa

Q302

	SW2～5
C	9.5V
B	3.7V
E	3V

Q305

	SW2～5
C	9.5V
B	1V
E	0.4V

Q303

	SW2～5
C	9.5V
B	1.8V
E	1.1V

Q304

	SW2～5
C	9.5V
B	1.6V
E	1V

Q318

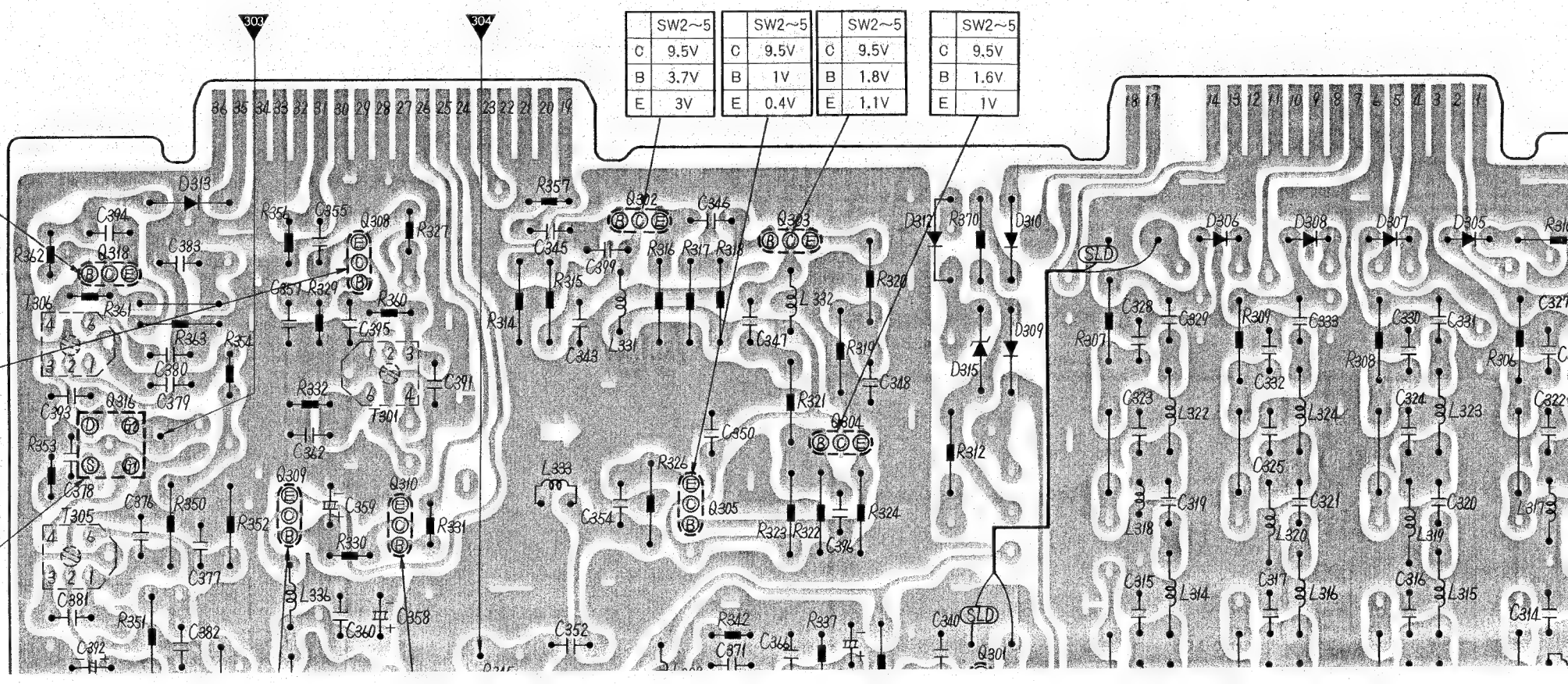
	SW2～5
C	9.7V
B	1.6V
E	0.9V

Q308

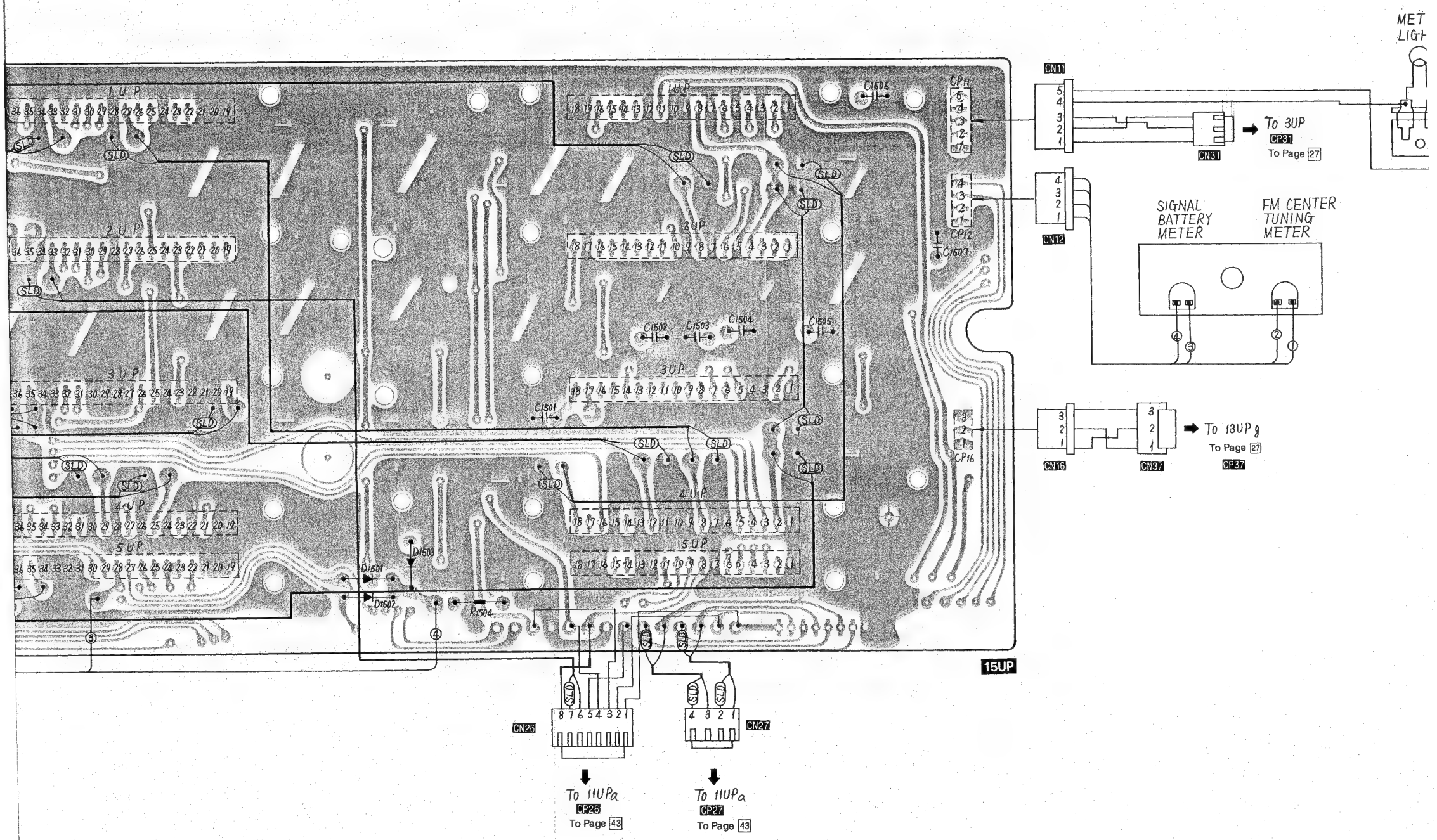
	SW2～5
C	0.4V
B	3.1V
E	3.8V

Q316

	SW2～5
D	7.3V
G1	0V
G2	0V
S	0.2V

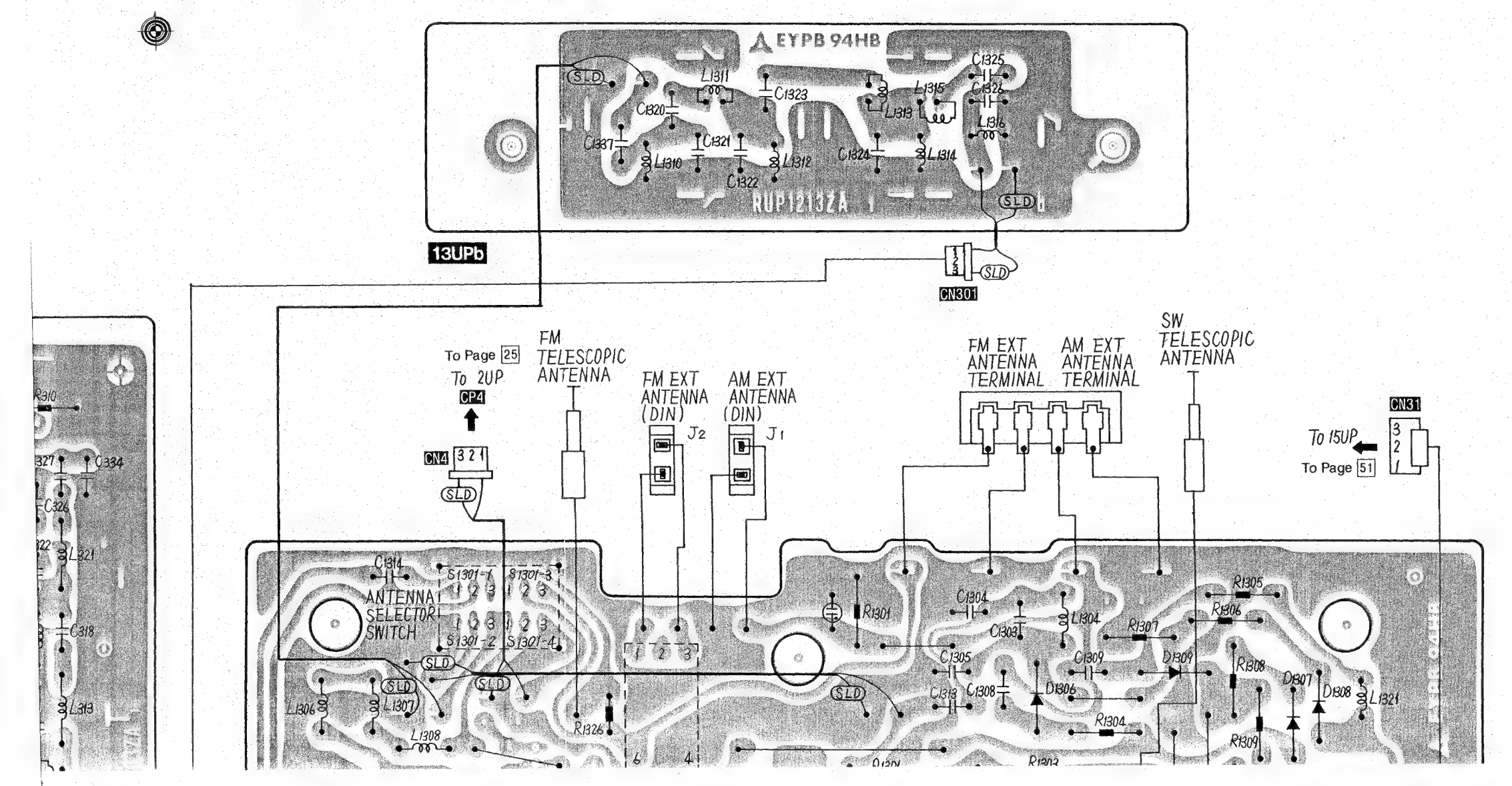


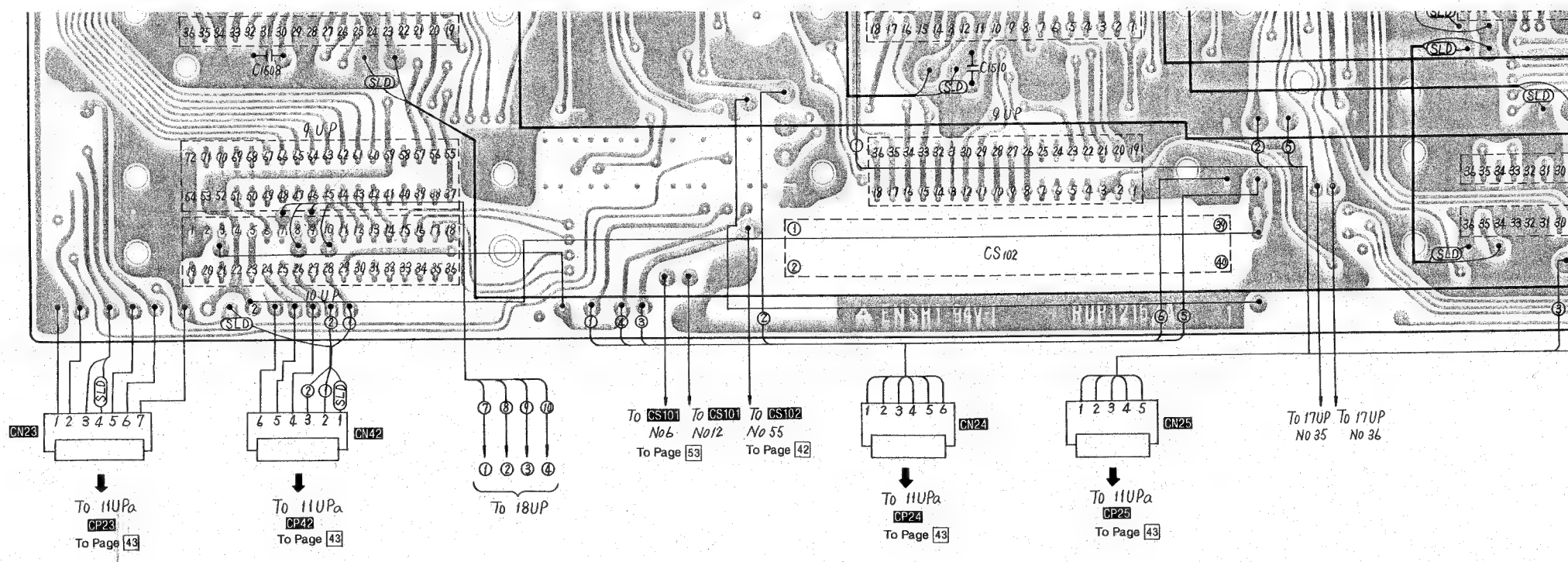
EW (15 UP) . . . COMMON CIRCUIT

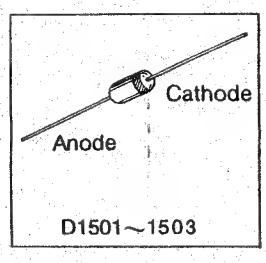


3 UP, 13 UPa, b 3 UP, 13 UPa, b

Pa, b) . . .SW2~5 BPF, RF—IF & ANTENNA CIRCUIT







3 UP, 13 UPa, b **3 UP, 13 UPa, b**

CIRCUIT BOARD WIRING VIEW (3 UP, 13 UPa, b)

Q302	SW2~5
C	9.5V
B	3.7V
E	3V

Q305	SW2~5
C	9.5V
B	1V
E	0.4V

Q303	SW2~5
C	9.5V
B	1.8V
E	1.1V

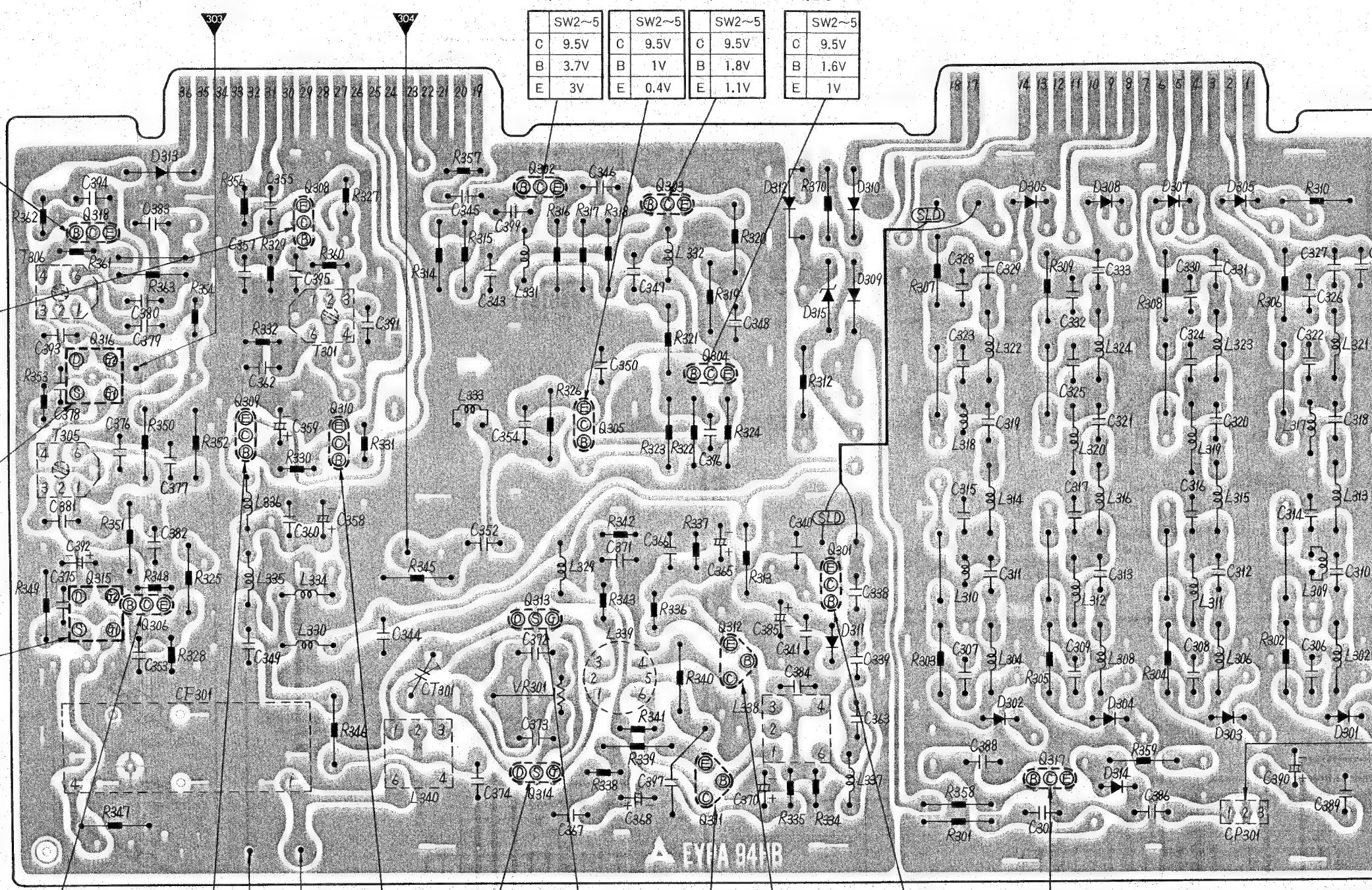
Q304	SW2~5
C	9.5V
B	1.6V
E	1V

Q318	SW2~5
C	9.7V
B	1.6V
E	0.9V

Q308	SW2~5
C	0.4V
B	3.1V
E	3.8V

Q316	SW2~5
D	7.3V
G1	0V
G2	0V
S	0.2V

Q315	SW2~5
D	6.1V
G1	0V
G2	3.2V
S	0.4V



Q306	SW2~5 AGC ON	SW2~5 AGC OFF
C	0V	3.2V
B	0.6V	0V
E	0V	0V

Q309	SW2~5	
C	9.8V	0V
B	9.1V	9.3V
E	9.8V	9.8V

Q310	SW2~5	
C	0V	9.3V
B	0.7V	0V
E	0V	0V

Q314	SW2~5
D	9.5V
G	0V
S	1V

Q313	SW2~5
D	9.5V
G	0V
S	1V

Q311	SW2~5
C	9.5V
B	0.7V
E	0.1V

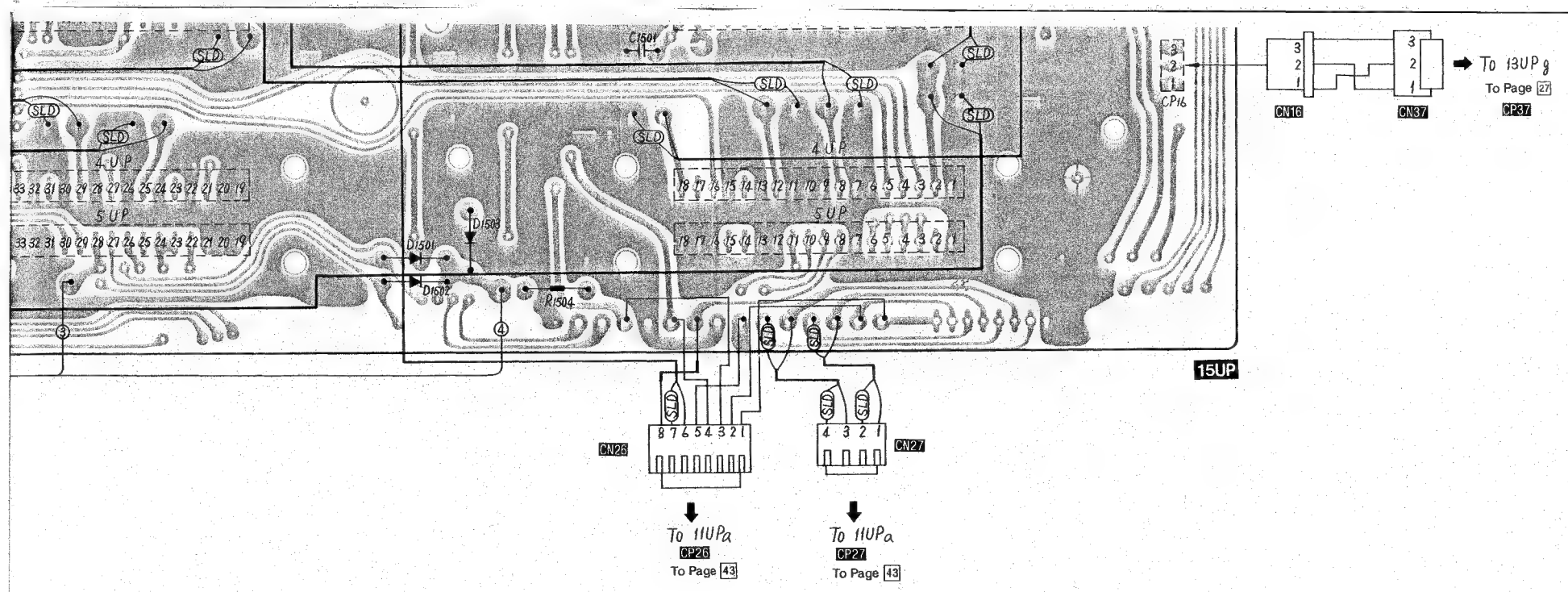
Q312	SW2~5
C	9.5V
B	0.7V
E	0.1V

Q301	SW2~5
C	9.3V
B	0.2V
E	0V

Q317	SW2~5 RF GAIN MIN
C	0V
B	0.6V
E	0V

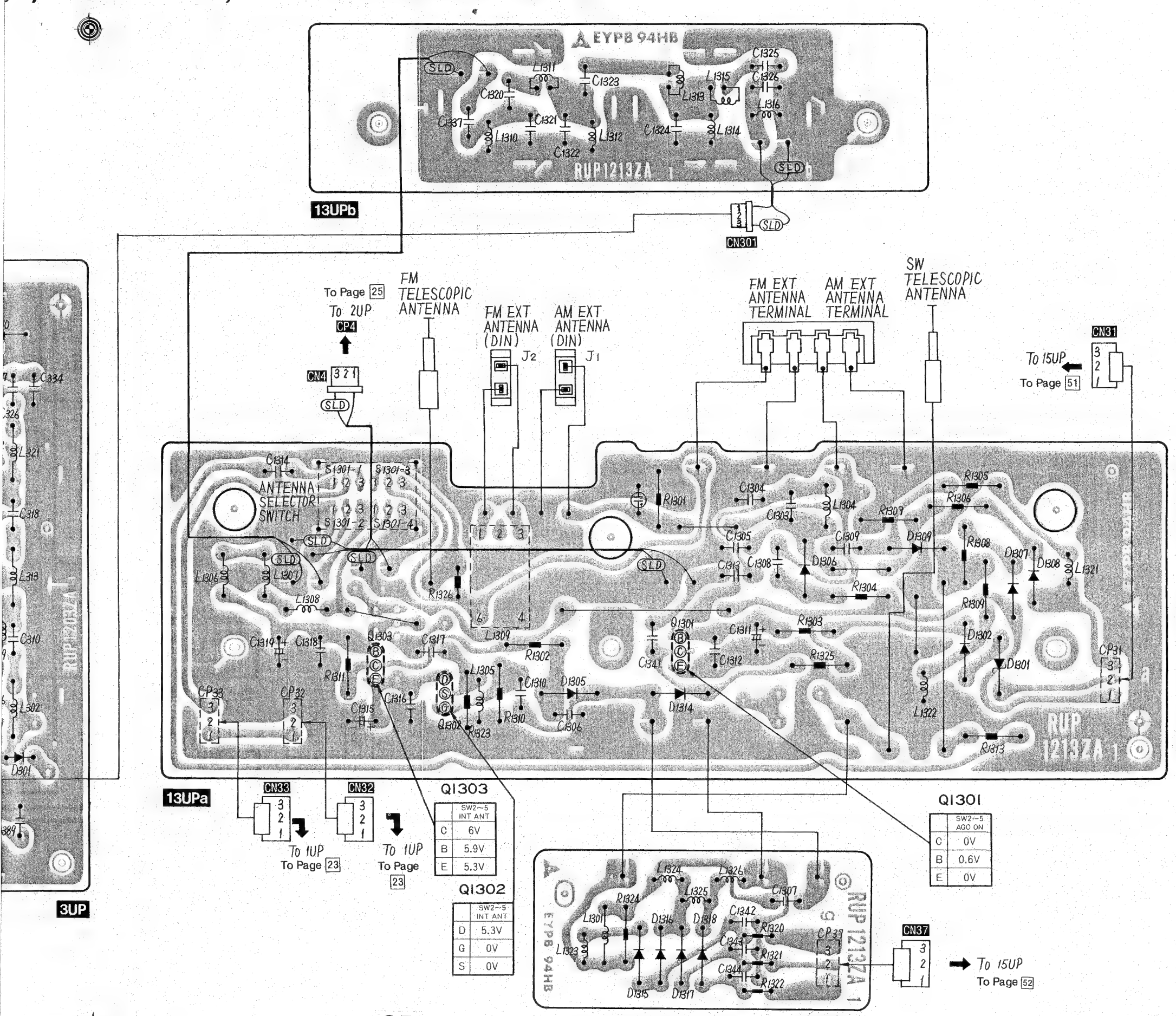
G1

G2



3 UP, 13 UPa, b

3 UP, 13 UPa, b) . . .SW2~5 BPF, RF—IF & ANTENNA CIRCUIT

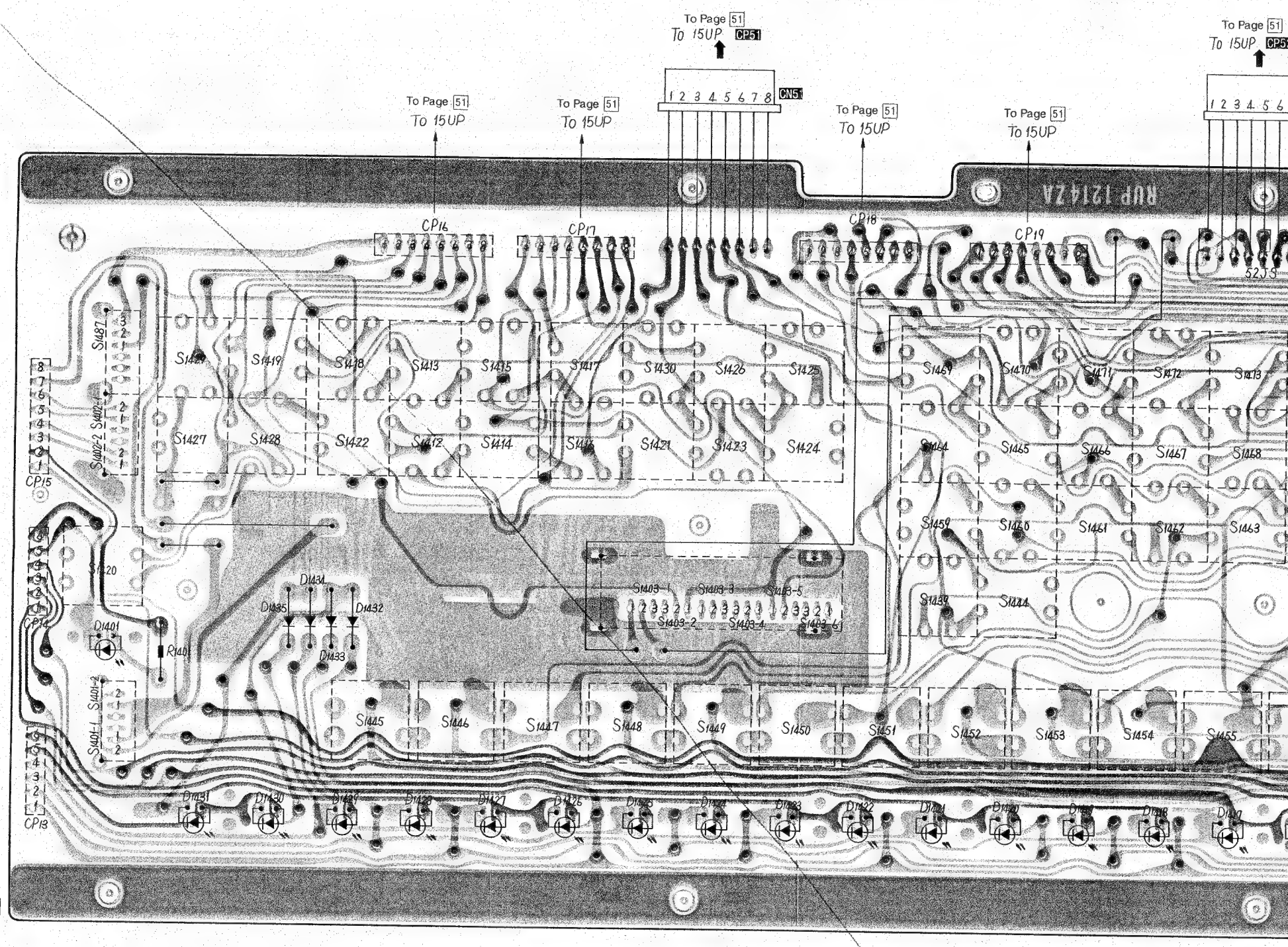


	SW2~5 INT ANT
C	6V
B	5.9V
E	5.3V

	SW2~5 AGC ON
C	0V
B	0.6V
E	0V

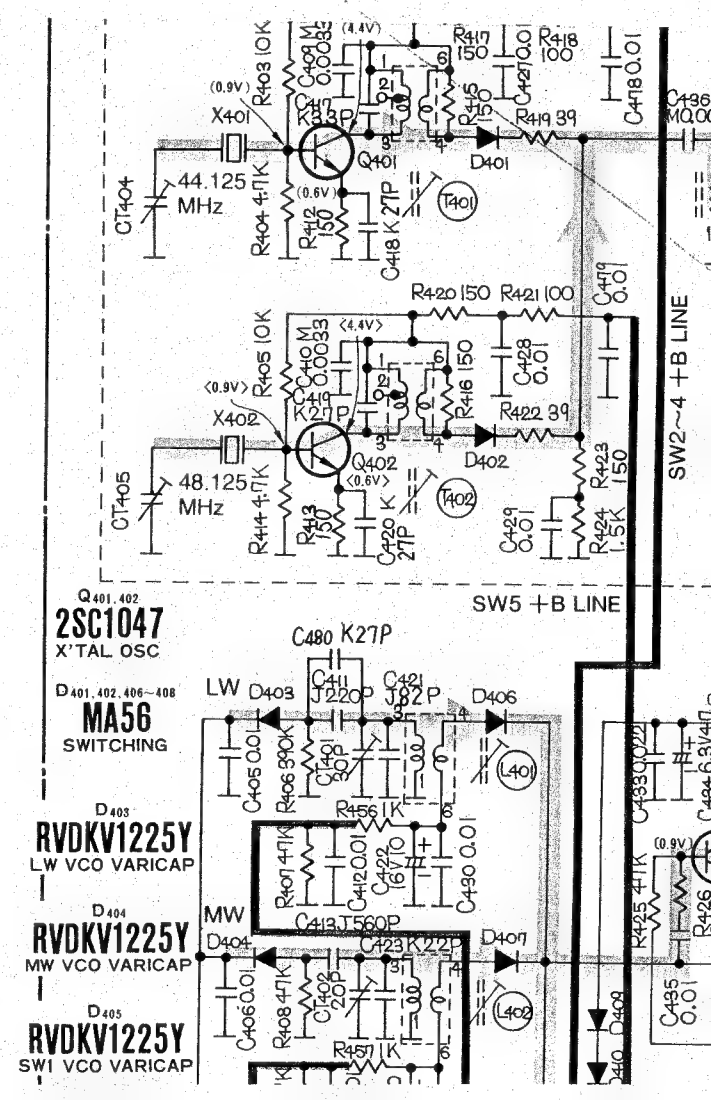
	SW2~5 INT ANT
D	5.3V
G	0V
S	0V

CIRCUIT BOARD WIRING VIEW

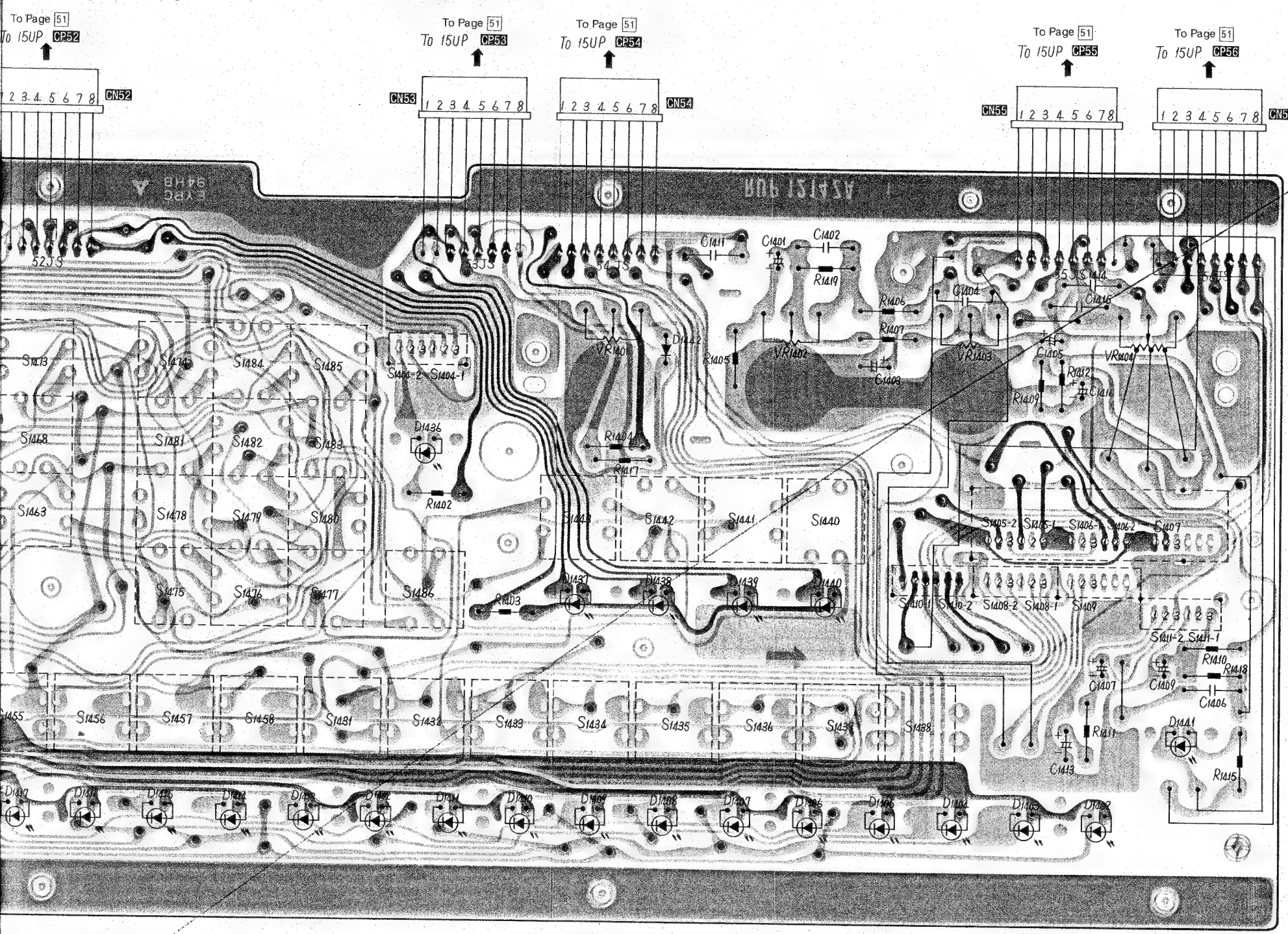


Remarques:

1. S1401: Commutateur marche/arrêt du l'éclairage en position "Arrêt".
2. S1402-1, S1402-2: Interrupteur de signal horaire.
3. S1403-1~S1403-2: Commutateur du sélecteur de programme en position "Manual" (manuel).
4. S1404-1, S1404-2: Interrupteur de blocage d'accord.
5. S1405-1, S1405-2: Interrupteur de bande AM étroite (Narrow).
6. S1406-1, S1406-2: Interrupteur de bande AM moyenne (MED).
7. S1407 : Interrupteur de bande AM garge (Wide).
8. S1408-1, S1408-2: Commutateur d'écrêteur automatique de bruit (ANL).
9. S1409: Interrupteur de haut-parleur d'aigus (Tweeter).
10. S1410-1, S1410-2: Commutateur Signal/Battery en position "Battery" (piles).
11. S1411-1, S1411-2: Interrupteur de Loudness.
12. S1412: Réglage Mois/Heure: avance.
13. S1413: Réglage Mois/Heure: retour en arrière.
14. S1414: Réglage Minutes/Date: avance.
15. S1415: Réglage Minutes/Date: retour en arrière.
16. S1416: Interrupteur d'avance de l'affichage cu canal.
17. S1417: Interrupteur de recul de l'affichage du canal.
18. S1418: Interrupteur 12/24 heures.
19. S1419: Commutateur "Sommeil".
20. S1420: Marche/arrêt.
21. S1421: Commutateur d'inversion de jour de programmation.
22. S1422: Interrupteur d'avance du jour de programmation (Day UP).
23. S1423: Interrupteur de mémoire journalière.
24. S1424: Interrupteur de contrôle de mémoire de programmation.
25. S1425: Commutateur de programmateur ON/OFF.
26. S1426: Interrupteur d'effacement de mémoire de programmation.
27. S1427: Interrupteur d'affichage Mois/Date.
28. S1428: Interrupteur d'affichage de l'heure sur un autre fuseau horaire.
29. S1429: Interrupteur d'affichage de l'heure.
30. S1430: Commutateur de programmation unique.
31. S1431: Touche de syntonisation automatique sur 15,3 MHz.
32. S1432: Touche de syntonisation automatique sur 17,8 MHz.
33. S1433: Touche de syntonisation automatique sur 21,2 MHz.
34. S1434: Touche de syntonisation automatique sur 21,6 MHz.
35. S1435: Touche de syntonisation automatique sur 25,9 MHz.
36. S1436: Touche de syntonisation automatique sur 28,5 MHz.
37. S1437: Touche de syntonisation automatique sur 95 MHz.
38. S1438: Touche de syntonisation automatique sur 101 MHz.
39. S1439: Interrupteur de lecture de mémoire et arrêt sur mémoire.
40. S1440: Interrupteur de fréquence AM pas à pas 1/5 kHz.
41. S1441: Interupteur de fréquence AM pas à pas 100/500 Hz.
42. S1442: Interrupteur de fréquence USB/CW pas à pas 100/500 Hz.
43. S1443: Interrupteur de fréquence LSB/CW pas à pas 100/500 Hz.
44. S1444: Interrupteur de mémoire.
45. S1445: Touche de syntonisation automatique sur 0,2 MHz.
46. S1446: Touche de syntonisation automatique sur 0,8 MHz.
47. S1447: Touche de syntonisation automatique sur 1,3 MHz.
48. S1448: Touche de syntonisation automatique sur 1,9 MHz.
49. S1449: Touche de syntonisation automatique sur 2,4 MHz.

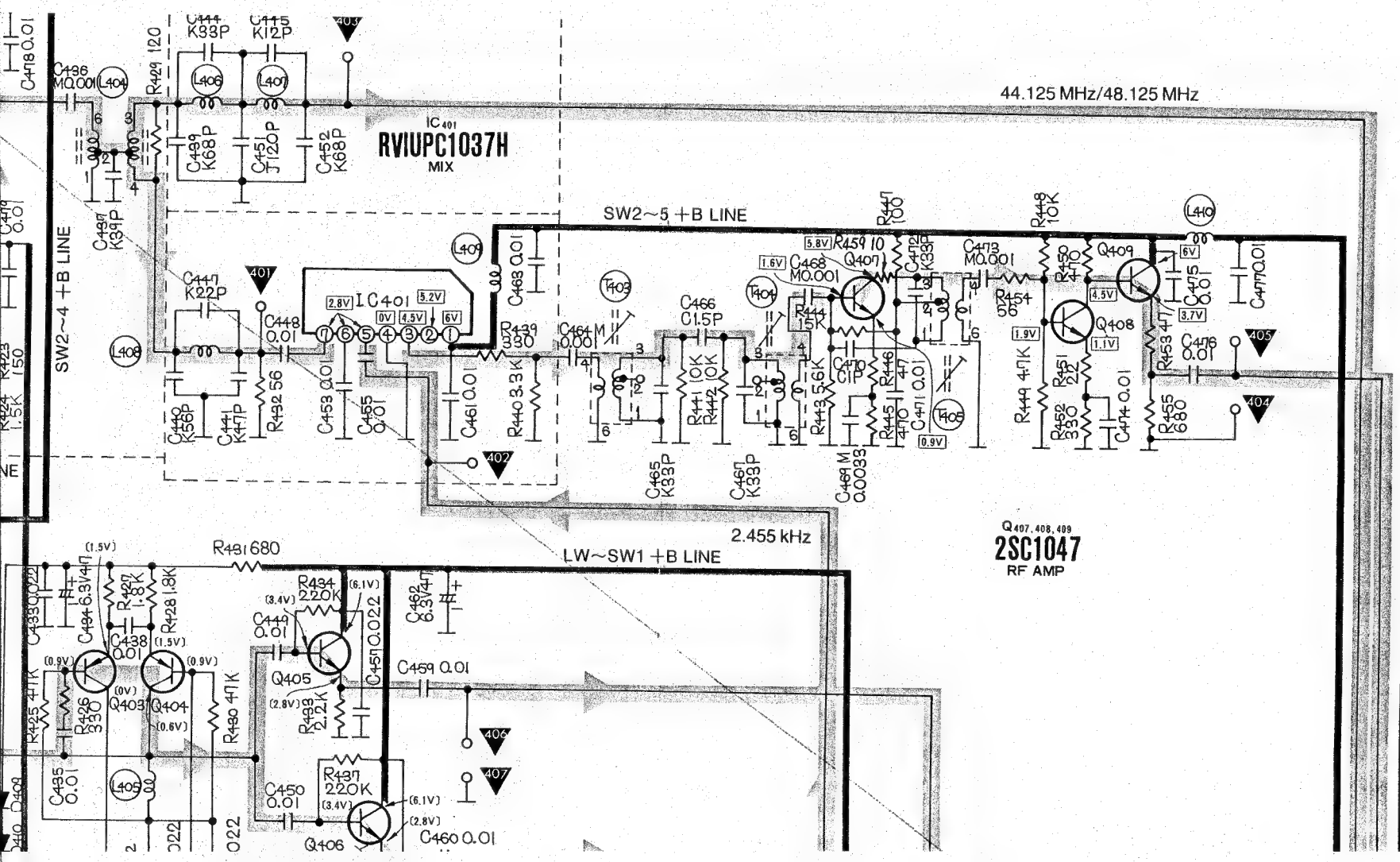


VIEW (14 UP)... KEY BOARD CIRCUIT



MHz.
MHz.
MHz.
MHz.
Hz.
MHz.
mémoire.
Hz.
0 Hz.
100/
100/
MHz.
MHz.
MHz.
MHz.
MHz.

50. S1450: Touche de syntonisation automatique sur 3,3 MHz.
51. S1451: Touche de syntonisation automatique sur 3,5 MHz.
52. S1452: Touche de syntonisation automatique sur 4,0 MHz.
53. S1453: Touche de syntonisation automatique sur 4,9 MHz.
54. S1454: Touche de syntonisation automatique sur 6,1 MHz.
55. S1455: Touche de syntonisation automatique sur 7,1 MHz.
56. S1456: Touche de syntonisation automatique sur 9,6 MHz.
57. S1457: Touche de syntonisation automatique sur 11,8 MHz.
58. S1458: Touche de syntonisation automatique sur 14,2 MHz.
59. S1459: Commutateur de présélection de syntonisation du canal 1.
60. S1460: Commutateur de présélection de syntonisation du canal 2.
61. S1461: Commutateur de présélection de syntonisation du canal 3.
62. S1462: Commutateur de présélection de syntonisation du canal 4.
63. S1463: Commutateur de présélection de syntonisation du canal 5.
64. S1464: Commutateur de présélection de syntonisation du canal 6.
65. S1465: Commutateur de présélection de syntonisation du canal 7.
66. S1466: Commutateur de présélection de syntonisation du canal 8.
67. S1467: Commutateur de présélection de syntonisation du canal 9.
68. S1468: Commutateur de présélection de syntonisation du canal 10.
69. S1469: Commutateur de présélection de syntonisation du canal 11.
70. S1470: Commutateur de présélection de syntonisation du canal 12.
71. S1471: Commutateur de présélection de syntonisation du canal 13.
72. S1472: Commutateur de présélection de syntonisation du canal 14.
73. S1473: Commutateur de présélection de syntonisation du canal 15.
74. S1474: Touche de syntonisation directe 0.
75. S1475: Touche de syntonisation directe 1.
76. S1476: Touche de syntonisation directe 2.
77. S1477: Touche de syntonisation directe 3.
78. S1478: Touche de syntonisation directe 4.
79. S1479: Touche de syntonisation directe 5.
80. S1480: Touche de syntonisation directe 6.
81. S1481: Touche de syntonisation directe 7.
82. S1482: Touche de syntonisation directe 8.
83. S1483: Touche de syntonisation directe 9.
84. S1484: Touche de syntonisation directe ●.
85. S1485: Touche de fin de syntonisation directe.
86. S1486: Touche de début de syntonisation directe.
87. S1487: Interrupteur de réglage de l'horloge.
88. VR1401 . . . Contrôle de gain, VR1402 . . . Bass control, VR1403 . . . Treble control, VR1404 . . . Volume control.



electronics voltmeter from negative te
of battery.
[ ]... SW2~SW5 position,
( )... SW2~SW4 position,
< >... SW5 position,
[ ]... LW, MW, SW1 position.

Bemerkungen:

1. Die Markierung (▼) bezeichnet Meßpunkt, z.B: ▼= Meßpunkt 1.
2. Alle Gleichspannungen sind mit Elektronikvoltmeter vom negativen Ba anschluß aus zu messen.
   [ ]... Stellung „KW2~KW5",
   ( )... Stellung, „KW2~KW4",
   < >... Stellung „KW5",
   [ ]... Stellung „LW, MW, KW 1".

Remarques:

1. La marque (▼) signale un poi vérification. EX.: ▼ =point de vérificati
2. La tension c.c. est meaurée au moye voltmétre électronique à partir de la négative de la pile.
   [ ]...Position OC2~OC5,
   ( )... Position OC2~OC4,
   < >... Position OC5,
   [ ]... Position GO, PO, OC1.

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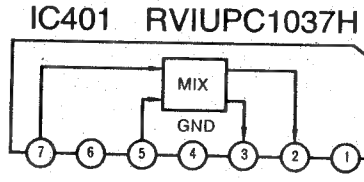
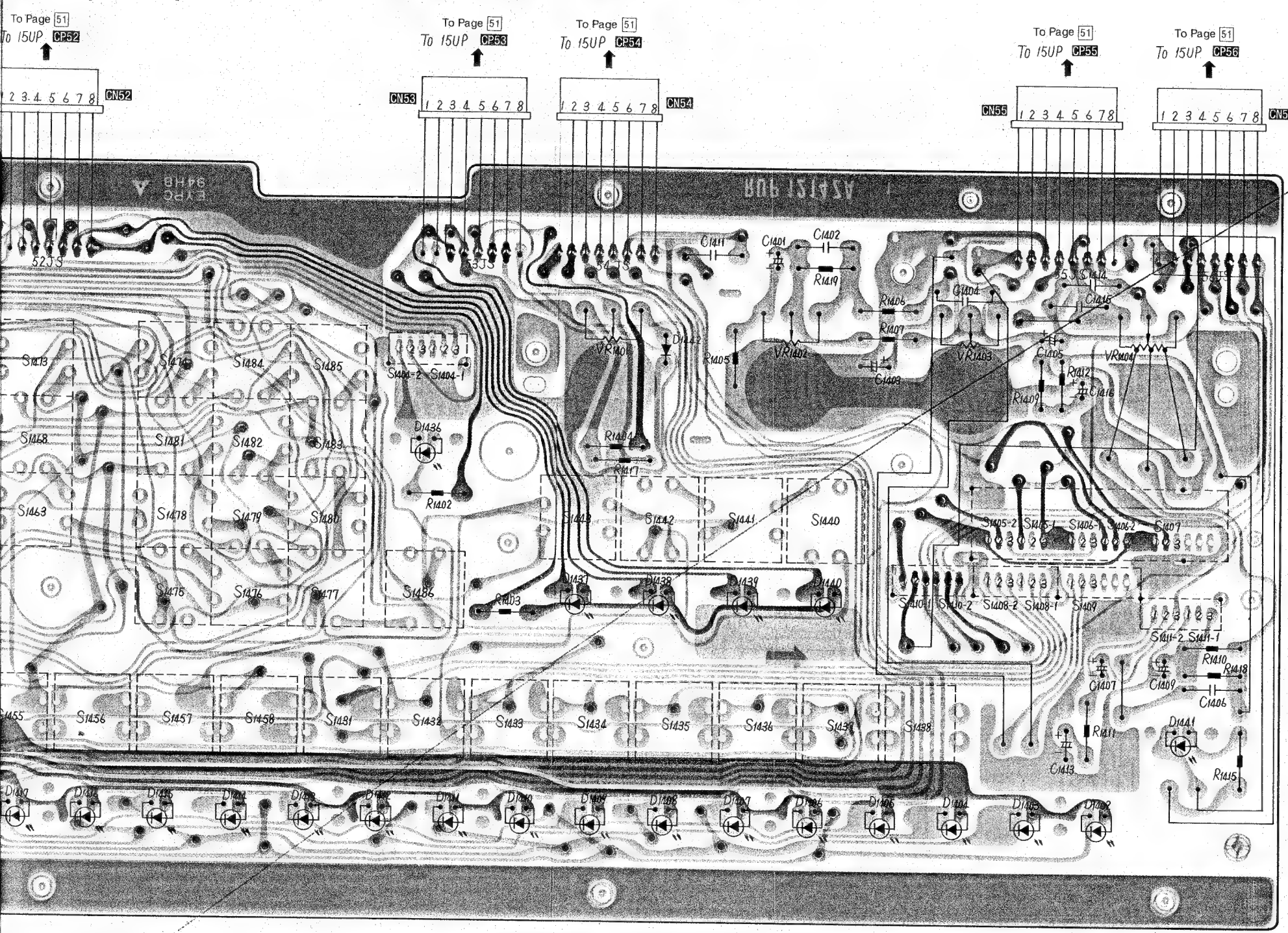


VIEW (14 UP)... KEY BOARD CIRCUIT



MHz.
MHz.
MHz.
MHz.
Hz.
MHz.
mémoire.
Hz.
0 Hz.
100/
100/
MHz.
MHz.
MHz.
MHz.
MHz.

50. S1450: Touche de syntonisation automatique sur 3,3 MHz.
51. S1451: Touche de syntonisation automatique sur 3,5 MHz.
52. S1452: Touche de syntonisation automatique sur 4,0 MHz.
53. S1453: Touche de syntonisation automatique sur 4,9 MHz.
54. S1454: Touche de syntonisation automatique sur 6,1 MHz.
55. S1455: Touche de syntonisation automatique sur 7,1 MHz.
56. S1456: Touche de syntonisation automatique sur 9,6 MHz.
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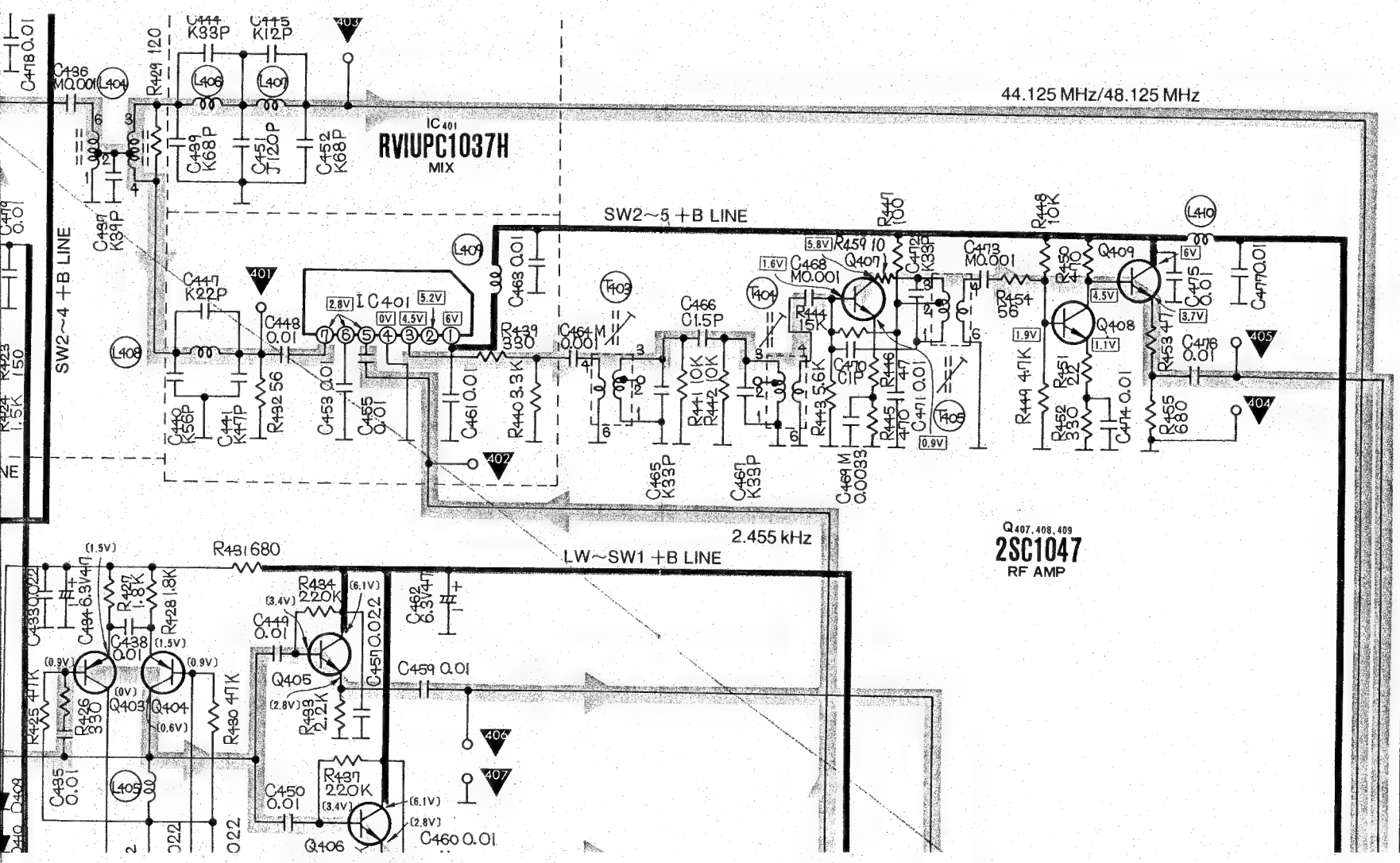
84. S1484: Touche de syntonisation directe ●.
85. S1485: Touche de fin de syntonisation directe.
86. S1486: Touche de début de syntonisation directe.
87. S1487: Interrupteur de réglage de l'horloge.
88. VR1401 ... Contrôle de gain, VR1402 ... Bass control, VR1403 ... Treble control, VR1404 ... Volume control.



electronics voltmeter from negative te
of battery.
[ ]... SW2~SW5 position,
( )... SW2~SW4 position,
< >... SW5 position,
[ ]... LW, MW, SW1 position.

Bemerkungen:

1. Die Markierung (▼) bezeichnet Meßpunkt, z.B: ▼= Meßpunkt 1.
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   [ ]... Stellung „KW2~KW5",
   ( )... Stellung, „KW2~KW4",
   < >... Stellung „KW5",
   [ ]... Stellung „LW, MW, KW 1".

Remarques:

1. La marque (▼) signale un poi vérification. EX.: ▼ =point de vérificati
2. La tension c.c. est meaurée au moye voltmétre électronique à partir de la négative de la pile.
   [ ]...Position OC2~OC5,
   ( )... Position OC2~OC4,
   < >... Position OC5,
   [ ]... Position GO, PO, OC1.

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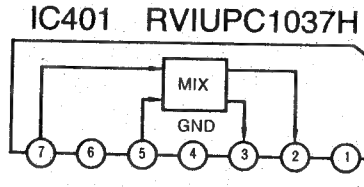
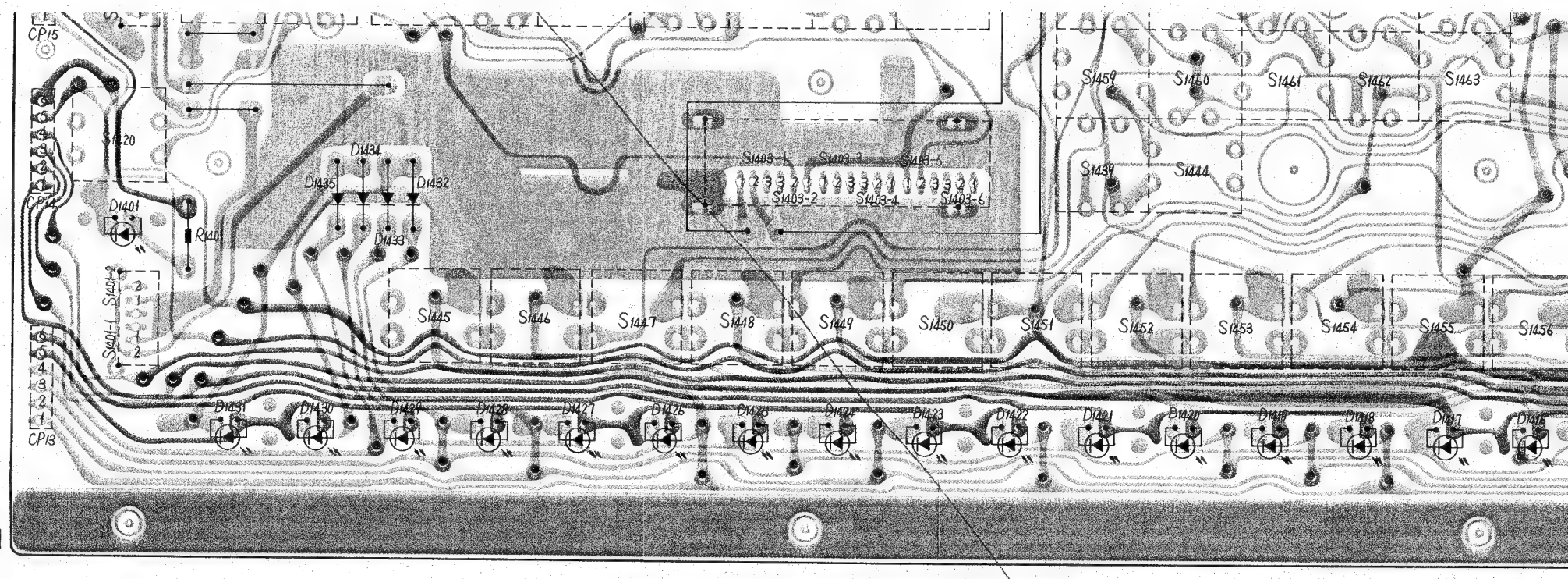
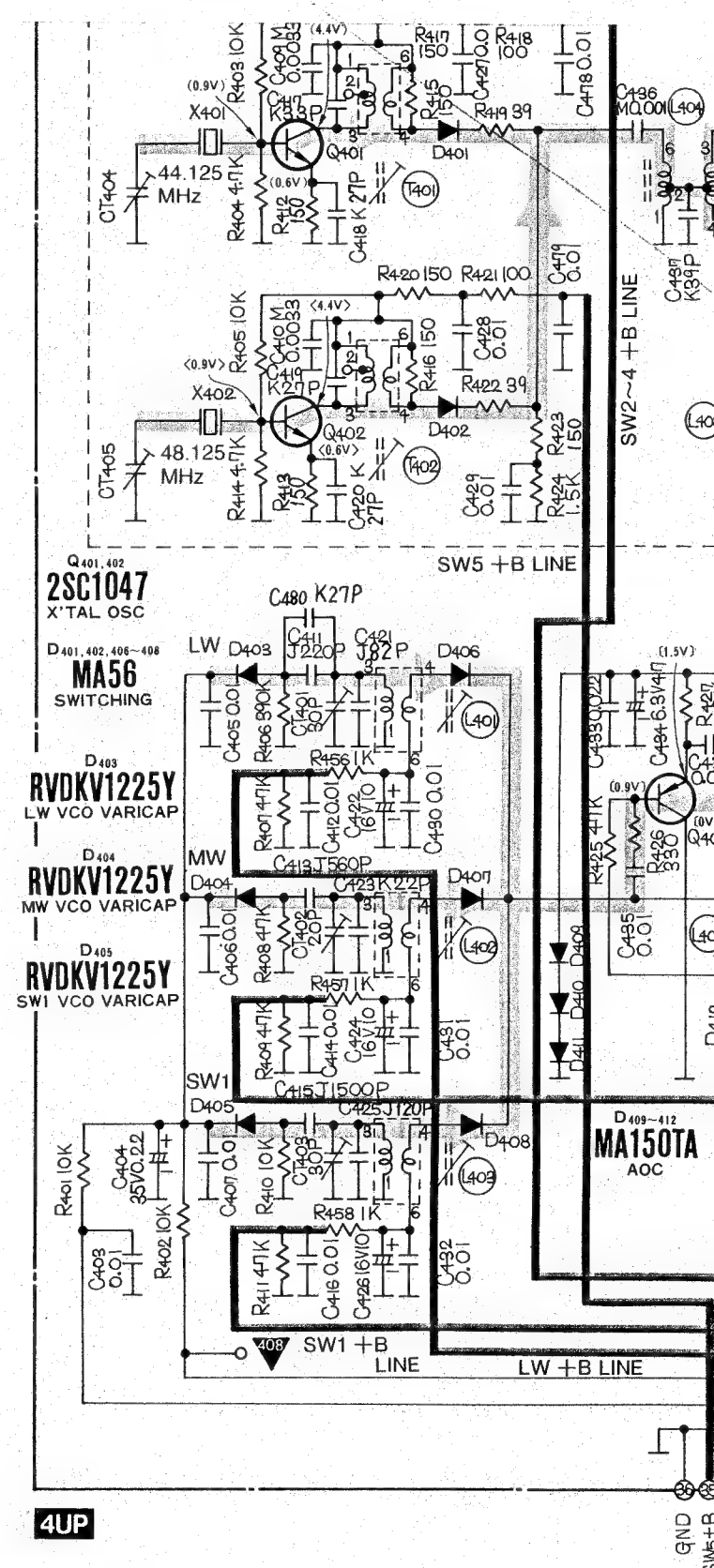
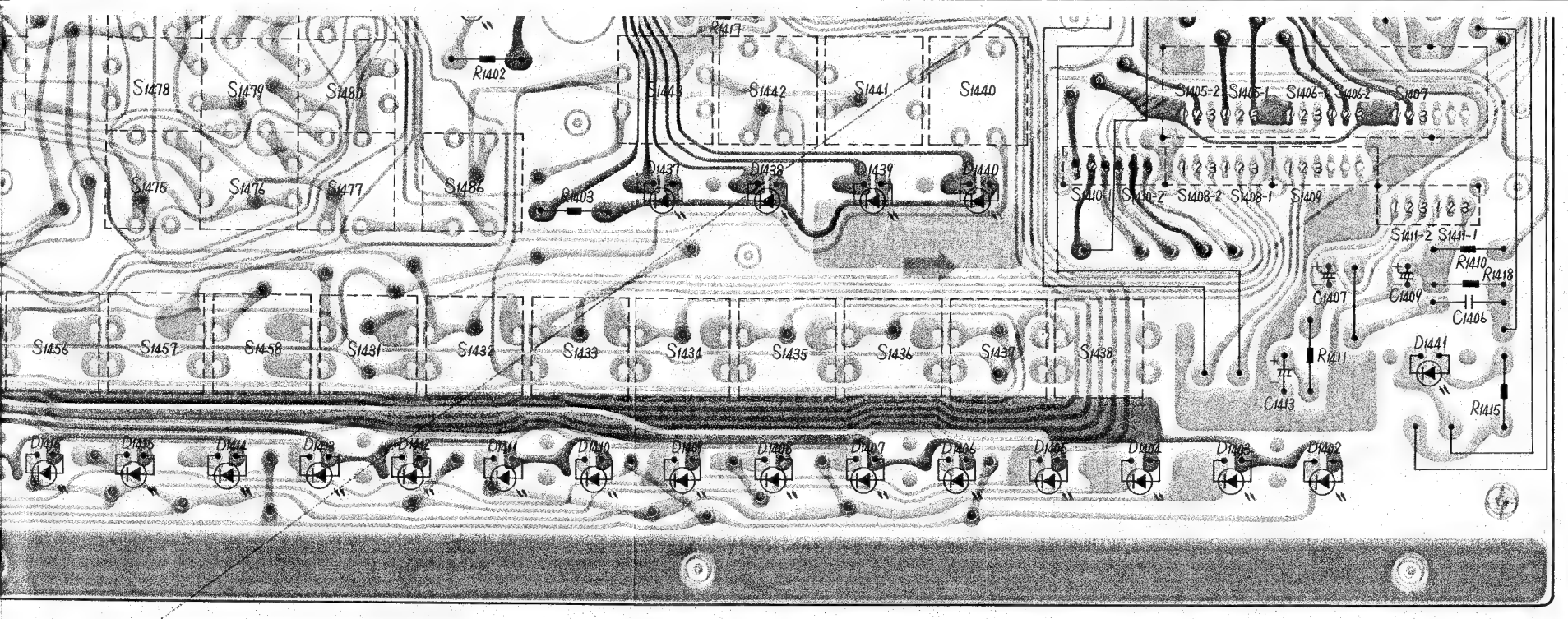




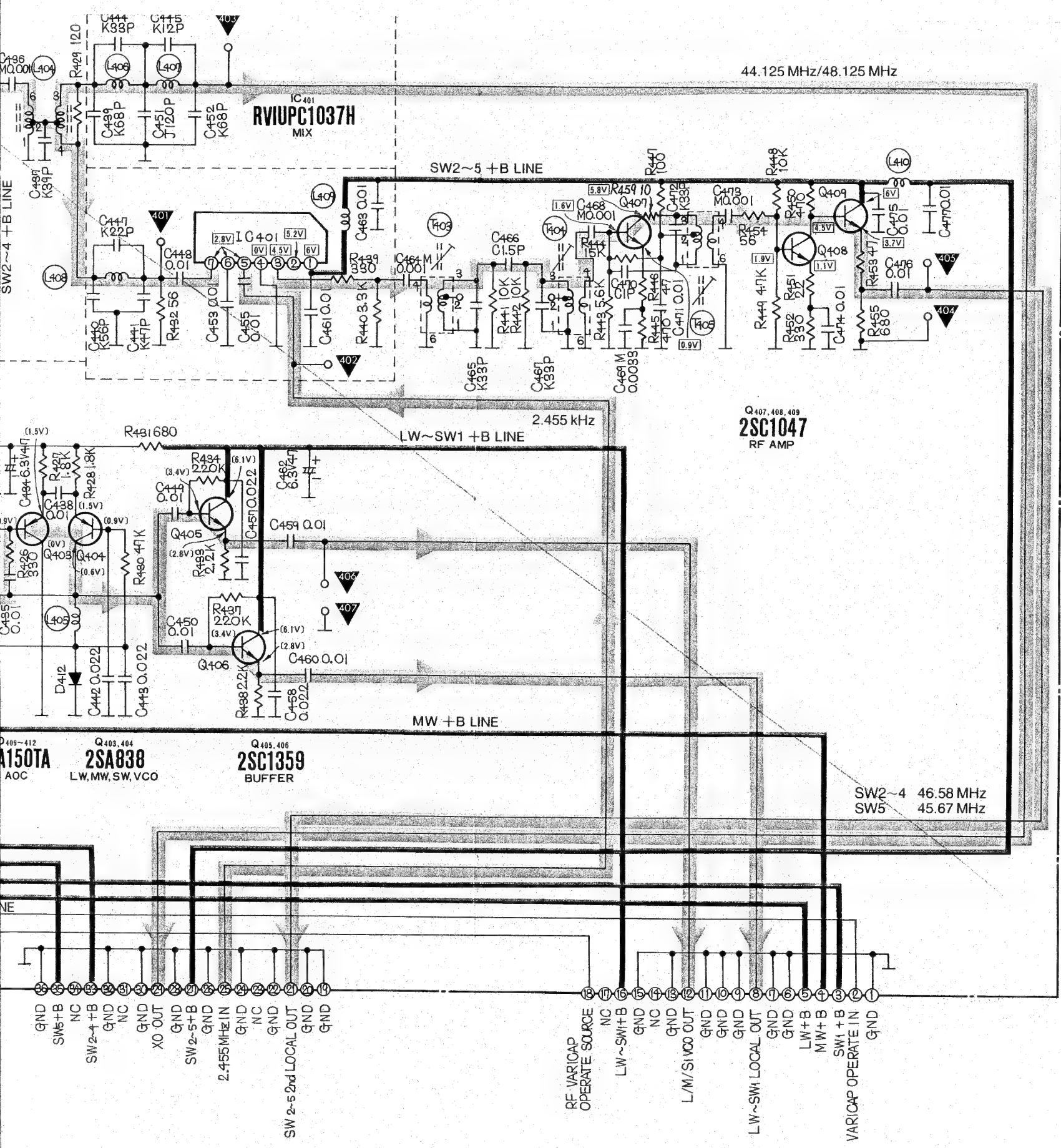
Remarques:

1. S1401: Commutateur marche/arrêt du l'éclairage en position "Arrêt".
2. S1402-1, S1402-2: Interrupteur de signal horaire.
3. S1403-1~S1403-2: Commutateur du sélecteur de programme en position "Manual" (manuel).
4. S1404-1, S1404-2: Interrupteur de blocage d'accord.
5. S1405-1, S1405-2: Interrupteur de bande AM étroite (Narrow).
6. S1406-1, S1406-2: Interrupteur de bande AM moyenne (MED).
7. S1407 : Interrupteur de bande AM garge (Wide).
8. S1408-1, S1408-2: Commutateur d'écrêteur automatique de bruit (ANL).
9. S1409: Interrupteur de haut-parleur d'aigus (Tweeter).
10. S1410-1, S1410-2: Commutateur Signal/Battery en position "Battery" (piles).
11. S1411-1, S1411-2: Interrupteur de Loudness.
12. S1412: Réglage Mois/Heure: avance.
13. S1413: Réglage Mois/Heure: retour en arrière.
14. S1414: Réglage Minutes/Date: avance.
15. S1415: Réglage Minutes/Date: retour en arrière.
16. S1416: Interrupteur d'avance de l'affichage cu canal.
17. S1417: Interrupteur de recul de l'affichage du canal.
18. S1418: Interrupteur 12/24 heures.
19. S1419: Commutateur "Sommeil".
20. S1420: Marche/arrêt.
21. S1421: Commutateur d'inversion de jour de programmation.
22. S1422: Interrupteur d'avance du jour de programmation (Day UP).
23. S1423: Interrupteur de mémoire journalière.
24. S1424: Interrupteur de contrôle de mémoire de programmation.
25. S1425: Commutateur de programmateur ON/OFF.
26. S1426: Interrupteur d'effacement de mémoire de programmation.
27. S1427: Interrupteur d'affichage Mois/Date.
28. S1428: Interrupteur d'affichage de l'heure sur un autre fuseau horaire.
29. S1429: Interrupteur d'affichage de l'heure.
30. S1430: Commutateur de programmation unique.
31. S1431: Touche de syntonisation automatique sur 15,3 MHz.
32. S1432: Touche de syntonisation automatique sur 17,8 MHz.
33. S1433: Touche de syntonisation automatique sur 21,2 MHz.
34. S1434: Touche de syntonisation automatique sur 21,6 MHz.
35. S1435: Touche de syntonisation automatique sur 25,9 MHz.
36. S1436: Touche de syntonisation automatique sur 28,5 MHz.
37. S1437: Touche de syntonisation automatique sur 95 MHz.
38. S1438: Touche de syntonisation automatique sur 101 MHz.
39. S1439: Interrupteur de lecture de mémoire et arrêt sur mémoire.
40. S1440: Interrupteur de fréquence AM pas à pas 1/5 kHz.
41. S1441: Interupteur de fréquence AM pas à pas 100/500 Hz.
42. S1442: Interrupteur de fréquence USB/CW pas à pas 100/500 Hz.
43. S1443: Interrupteur de fréquence LSB/CW pas à pas 100/500 Hz.
44. S1444: Interrupteur de mémoire.
45. S1445: Touche de syntonisation automatique sur 0,2 MHz.
46. S1446: Touche de syntonisation automatique sur 0,8 MHz.
47. S1447: Touche de syntonisation automatique sur 1,3 MHz.
48. S1448: Touche de syntonisation automatique sur 1,9 MHz.
49. S1449: Touche de syntonisation automatique sur 2,4 MHz.





50. S1450: Touche de syntonisation automatique sur 3,3 MHz.
51. S1451: Touche de syntonisation automatique sur 3,5 MHz.
52. S1452: Touche de syntonisation automatique sur 4,0 MHz.
53. S1453: Touche de syntonisation automatique sur 4,9 MHz.
54. S1454: Touche de syntonisation automatique sur 6,1 MHz.
55. S1455: Touche de syntonisation automatique sur 7,1 MHz.
56. S1456: Touche de syntonisation automatique sur 9,6 MHz.
57. S1457: Touche de syntonisation automatique sur 11,8 MHz.
58. S1458: Touche de syntonisation automatique sur 14,2 MHz.
59. S1459: Commutateur de présélection de syntonisation du canal 1.
60. S1460: Commutateur de présélection de syntonisation du canal 2.
61. S1461: Commutateur de présélection de syntonisation du canal 3.
62. S1462: Commutateur de présélection de syntonisation du canal 4.
63. S1463: Commutateur de présélection de syntonisation du canal 5.
64. S1464: Commutateur de présélection de syntonisation du canal 6.
65. S1465: Commutateur de présélection de syntonisation du canal 7.
66. S1466: Commutateur de présélection de syntonisation du canal 8.
67. S1467: Commutateur de présélection de syntonisation du canal 9.
68. S1468: Commutateur de présélection de syntonisation du canal 10.
69. S1469: Commutateur de présélection de syntonisation du canal 11.
70. S1470: Commutateur de présélection de syntonisation du canal 12.
71. S1471: Commutateur de présélection de syntonisation du canal 13.
72. S1472: Commutateur de présélection de syntonisation du canal 14.
73. S1473: Commutateur de présélection de syntonisation du canal 15.
74. S1474: Touche de syntonisation directe 0.
75. S1475: Touche de syntonisation directe 1.
76. S1476: Touche de syntonisation directe 2.
77. S1477: Touche de syntonisation directe 3.
78. S1478: Touche de syntonisation directe 4.
79. S1479: Touche de syntonisation directe 5.
80. S1480: Touche de syntonisation directe 6.
81. S1481: Touche de syntonisation directe 7.
82. S1482: Touche de syntonisation directe 8.
83. S1483: Touche de syntonisation directe 9.
84. S1484: Touche de syntonisation directe ●.
85. S1485: Touche de fin de syntonisation directe.
86. S1486: Touche de début de syntonisation directe.
87. S1487: Interrupteur de réglage de l'horloge.
88. VR1401 . . . Contrôle de gain, VR1402 . . . Bass control, VR1403 . . . Treble control, VR1404 . . . Volume control.



electronics voltmeter from negative term of battery.

[ ] . . . SW2~SW5 position,
( ) . . . SW2~SW4 position,
< > . . . SW5 position,
[ ] . . . LW, MW, SW1 position.

Bemerkungen:

1. Die Markierung (▼) bezeichnet ein Meßpunkt, z.B: ▼= Meßpunkt 1.
2. Alle Gleichspannungen sind mit eine Elektronikvoltmeter vom negativen Batteri anschluß aus zu messen.

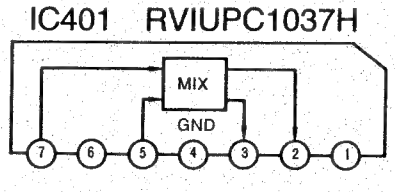
[ ] . . . Stellung „KW2~KW5",
( ) . . . Stellung, „KW2~KW4",
< > . . . Stellung „KW5",
[ ] . . . Stellung „LW, MW, KW 1".

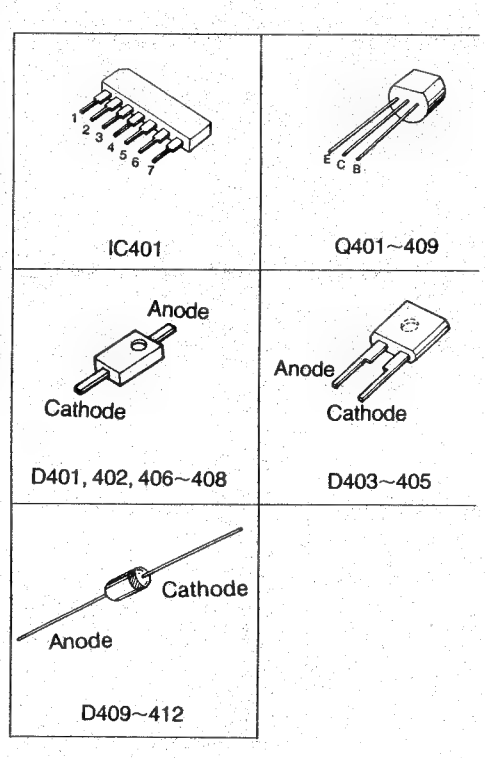
Remarques:

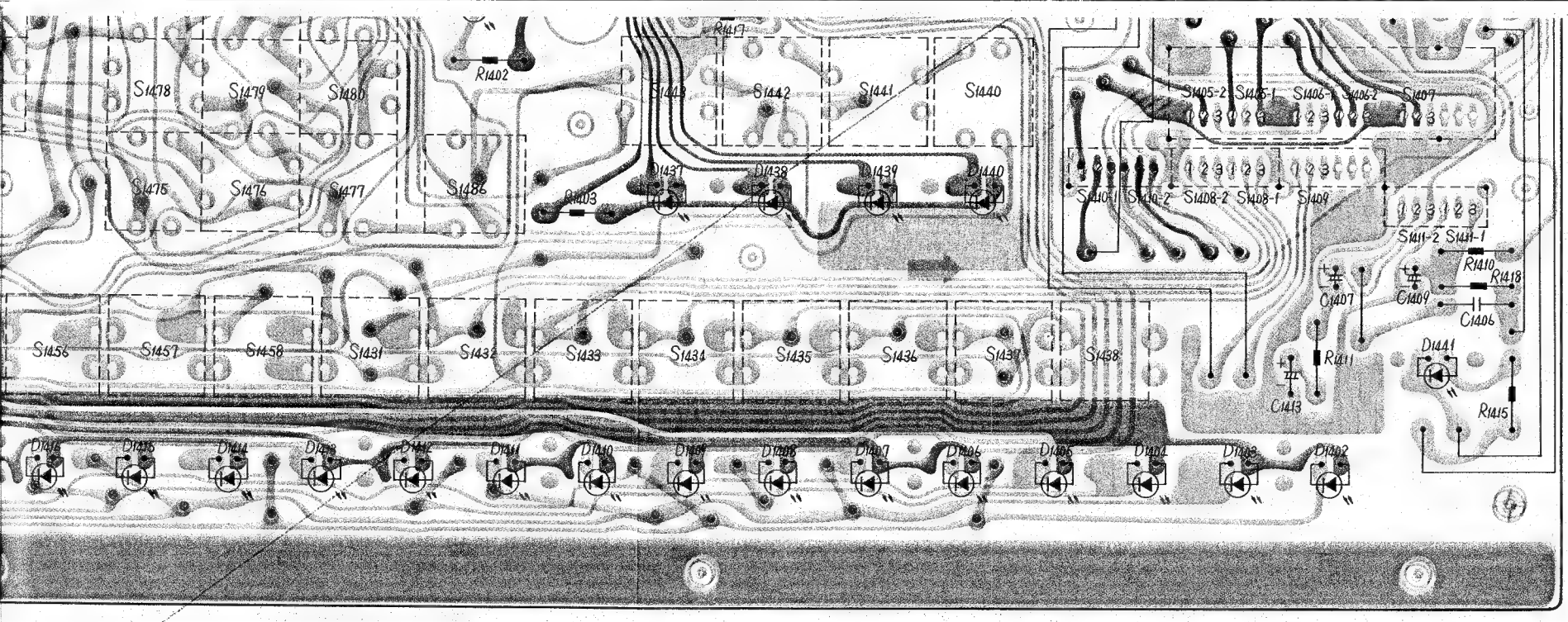
1. La marque (▼) signale un point vérification. EX.: ▼ =point de vérification 1
2. La tension c.c. est meaurée au moyen d'u voltmétre électronique à partir de la bor négative de la pile.

[ ] . . .Position OC2~OC5,
( ) . . . Position OC2~OC4,
< > . . . Position OC5,
[ ] . . . Position GO, PO, OC1.

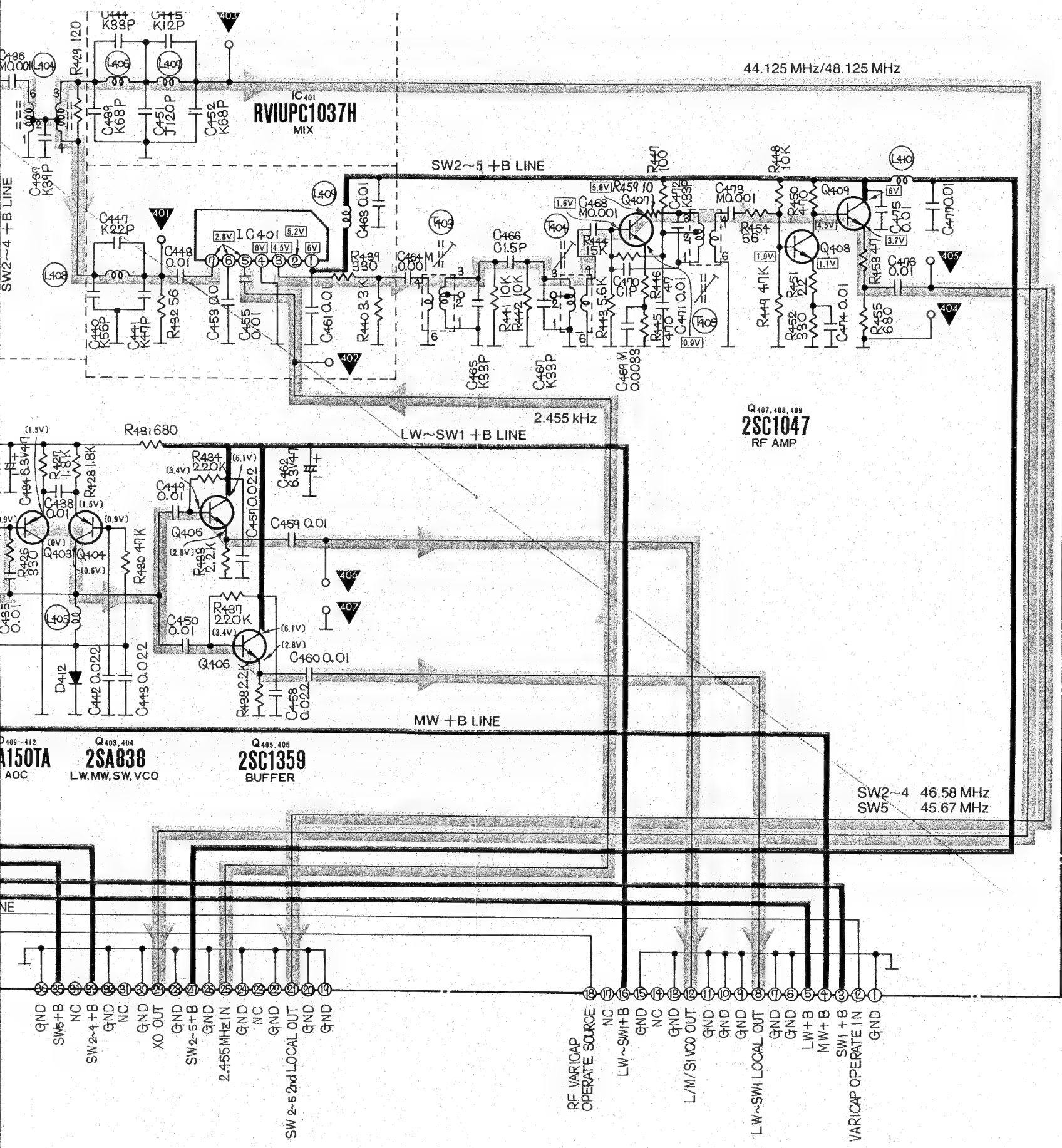
IC401 RVIUPC1037H







50. S1450: Touche de syntonisation automatique sur 3,3 MHz.
51. S1451: Touche de syntonisation automatique sur 3,5 MHz.
52. S1452: Touche de syntonisation automatique sur 4,0 MHz.
53. S1453: Touche de syntonisation automatique sur 4,9 MHz.
54. S1454: Touche de syntonisation automatique sur 6,1 MHz.
55. S1455: Touche de syntonisation automatique sur 7,1 MHz.
56. S1456: Touche de syntonisation automatique sur 9,6 MHz.
57. S1457: Touche de syntonisation automatique sur 11,8 MHz.
58. S1458: Touche de syntonisation automatique sur 14,2 MHz.
59. S1459: Commutateur de présélection de syntonisation du canal 1.
60. S1460: Commutateur de présélection de syntonisation du canal 2.
61. S1461: Commutateur de présélection de syntonisation du canal 3.
62. S1462: Commutateur de présélection de syntonisation du canal 4.
63. S1463: Commutateur de présélection de syntonisation du canal 5.
64. S1464: Commutateur de présélection de syntonisation du canal 6.
65. S1465: Commutateur de présélection de syntonisation du canal 7.
66. S1466: Commutateur de présélection de syntonisation du canal 8.
67. S1467: Commutateur de présélection de syntonisation du canal 9.
68. S1468: Commutateur de présélection de syntonisation du canal 10.
69. S1469: Commutateur de présélection de syntonisation du canal 11.
70. S1470: Commutateur de présélection de syntonisation du canal 12.
71. S1471: Commutateur de présélection de syntonisation du canal 13.
72. S1472: Commutateur de présélection de syntonisation du canal 14.
73. S1473: Commutateur de présélection de syntonisation du canal 15.
74. S1474: Touche de syntonisation directe 0.
75. S1475: Touche de syntonisation directe 1.
76. S1476: Touche de syntonisation directe 2.
77. S1477: Touche de syntonisation directe 3.
78. S1478: Touche de syntonisation directe 4.
79. S1479: Touche de syntonisation directe 5.
80. S1480: Touche de syntonisation directe 6.
81. S1481: Touche de syntonisation directe 7.
82. S1482: Touche de syntonisation directe 8.
83. S1483: Touche de syntonisation directe 9.
84. S1484: Touche de syntonisation directe •.
85. S1485: Touche de fin de syntonisation directe.
86. S1486: Touche de début de syntonisation directe.
87. S1487: Interrupteur de réglage de l'horloge.
88. VR1401 . . . Contrôle de gain, VR1402 . . . Bass control, VR1403 . . . Treble control, VR1404 . . . Volume control.



electronics voltmeter from negative term of battery.

[ ] . . . SW2~SW5 position,
( ) . . . SW2~SW4 position,
< > . . . SW5 position,
[ ] . . . LW, MW, SW1 position.

Bemerkungen:

1. Die Markierung (▼) bezeichnet ein Meßpunkt, z.B: ▼ = Meßpunkt 1.
2. Alle Gleichspannungen sind mit eine Elektronikvoltmeter vom negativen Batteri anschluß aus zu messen.

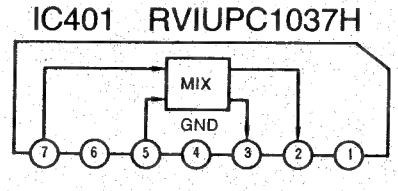
[ ] . . . Stellung „KW2~KW5",
( ) . . . Stellung, „KW2~KW4",
< > . . . Stellung „KW5",
[ ] . . . Stellung „LW, MW, KW 1".

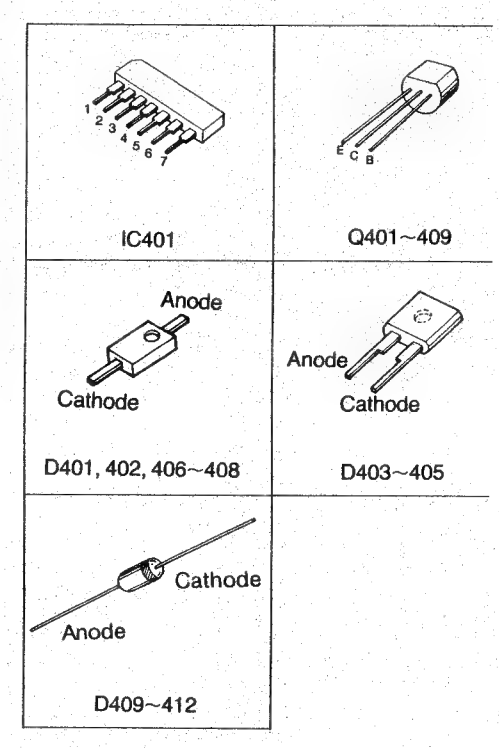
Remarques:

1. La marque (▼) signale un point vérification. EX.: ▼ = point de vérification 1
2. La tension c.c. est meaurée au moyen d'u voltmétre électronique à partir de la born négative de la pile.

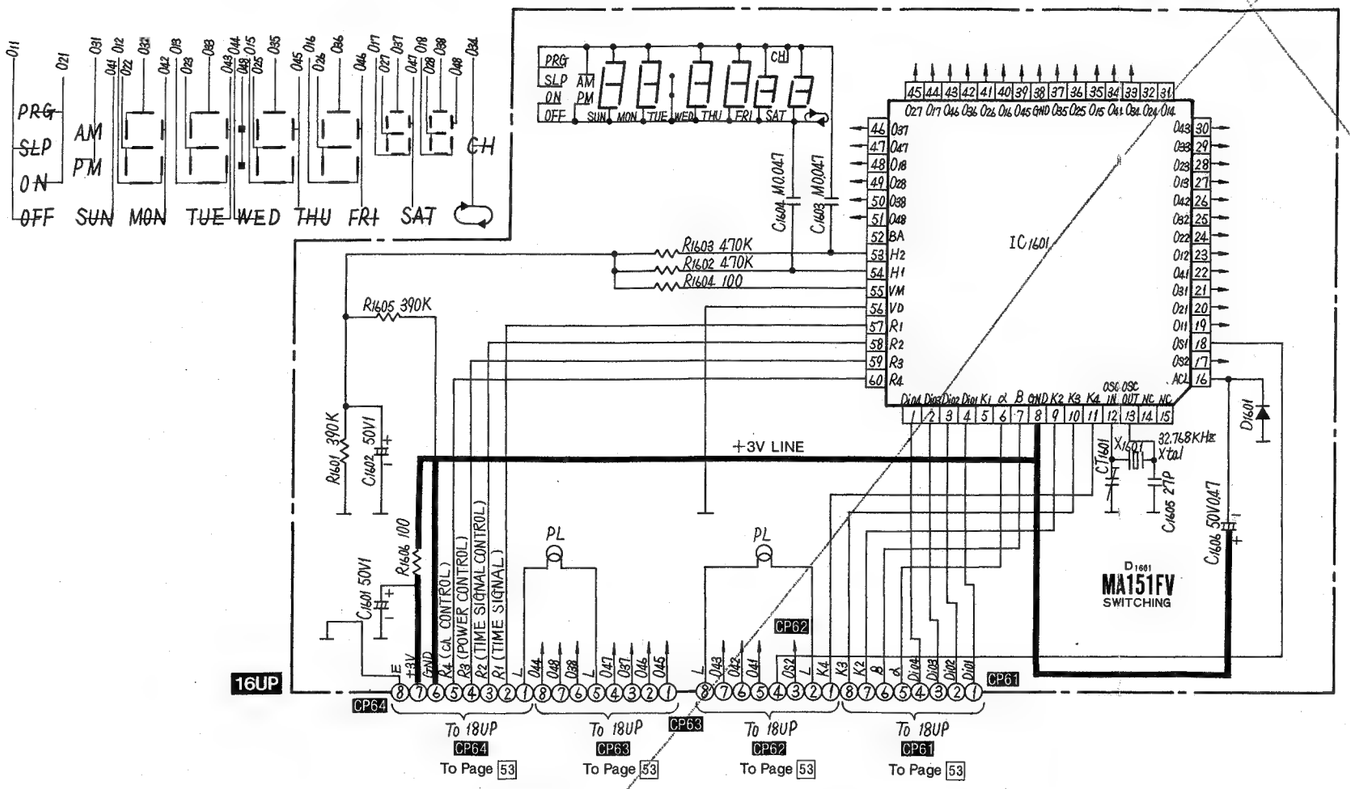
[ ] . . . Position OC2~OC5,
( ) . . . Position OC2~OC4,
< > . . . Position OC5,
[ ] . . . Position GO, PO, OC1.

IC401 RVIUPC1037H

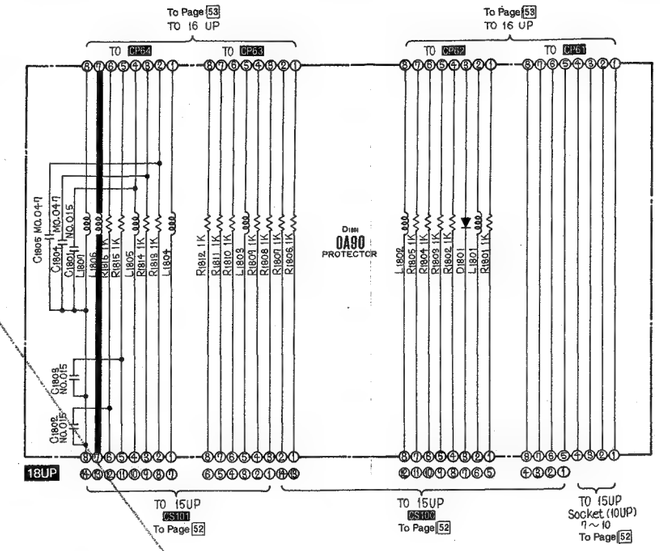




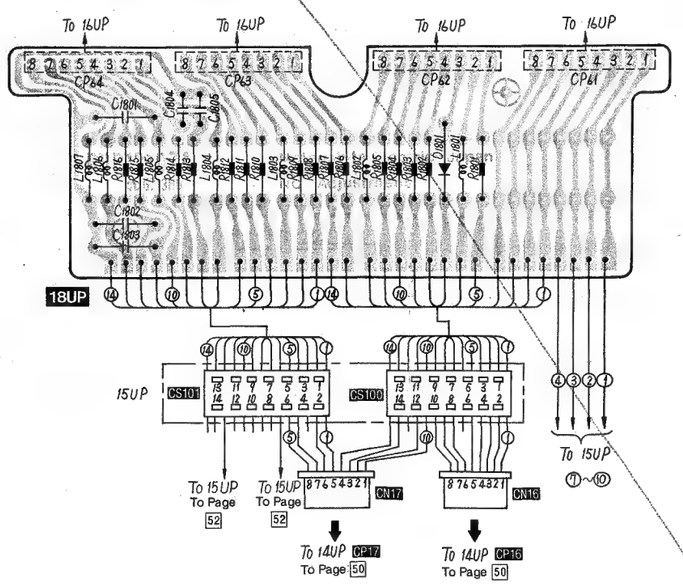
SCHEMATIC DIAGRAM (16 UP) . . . CLOCK CIRCUIT

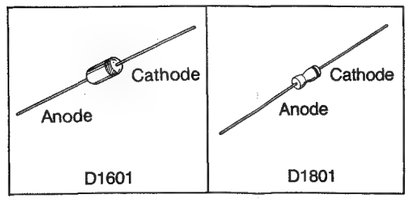


SCHEMATIC DIAGRAM (18 UP) . . . COMMON CIRCUIT

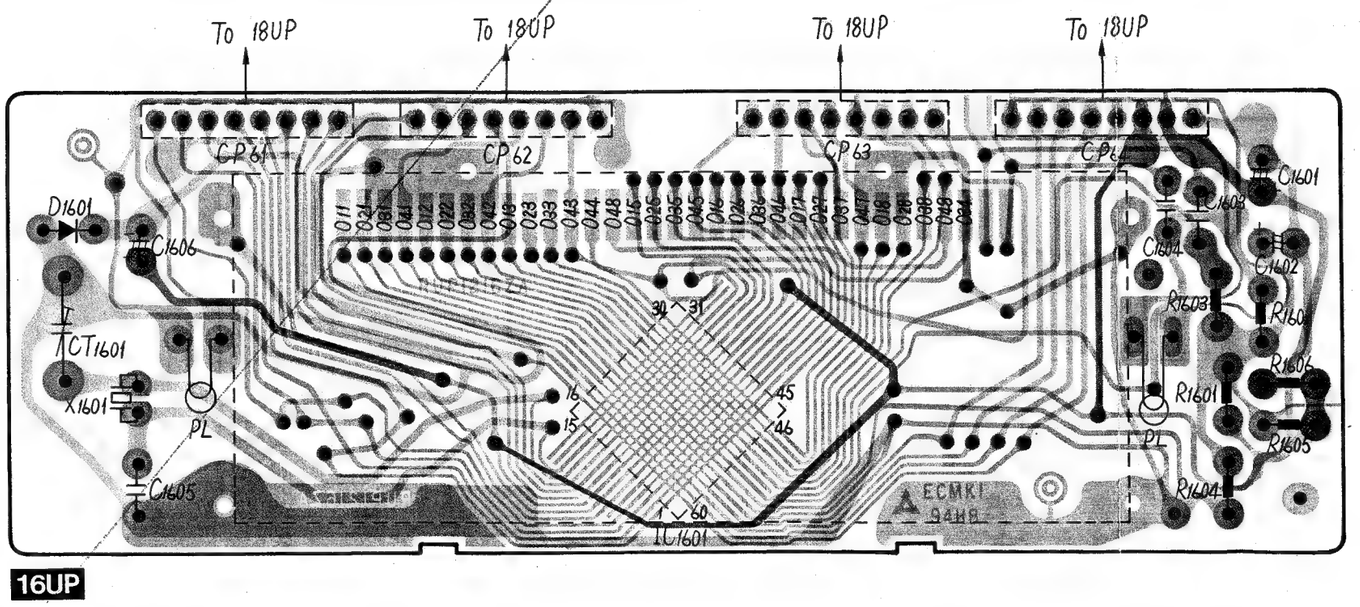


CIRCUIT BOARD WIRING VIEW (18 UP) . . . COMMON CIRCUIT

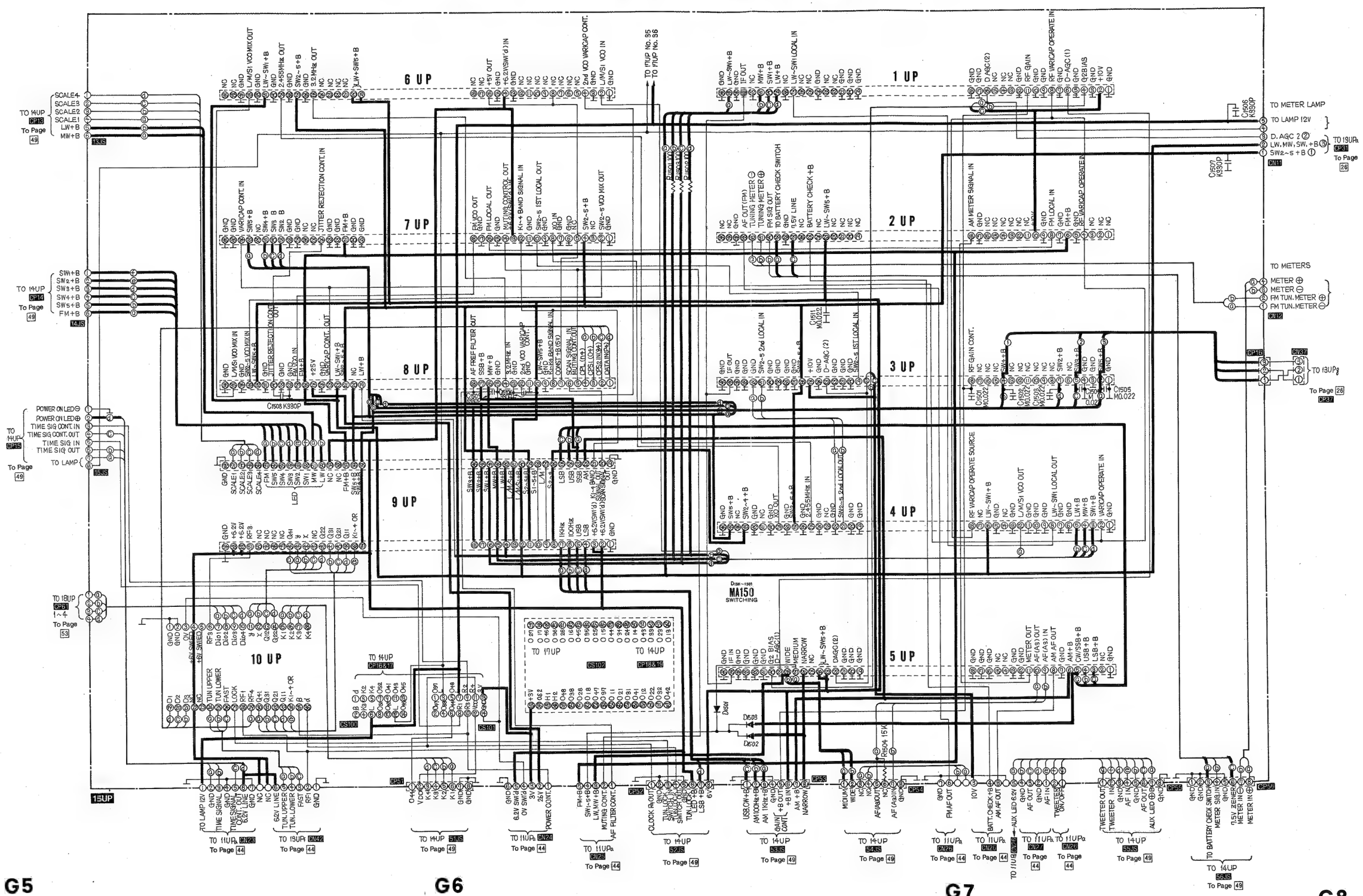




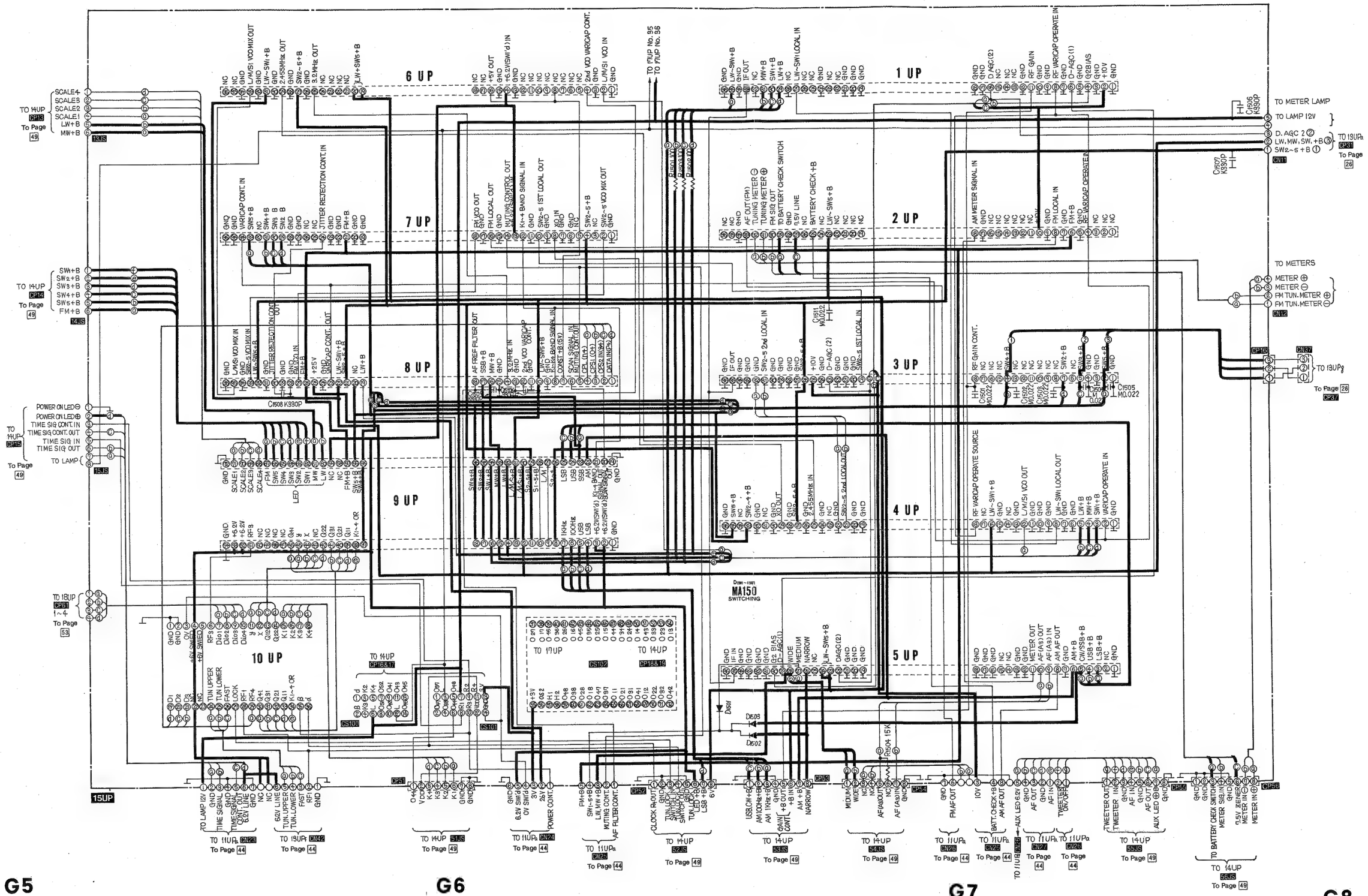
CIRCUIT BOARD WIRING VIEW (16 UP) . . . CLOCK CIRCUIT



SCHEMATIC DIAGRAM (15 UP) . . . COMMON CIRCUIT



SCHEMATIC DIAGRAM (15 UP) . . . COMMON CIRCUIT



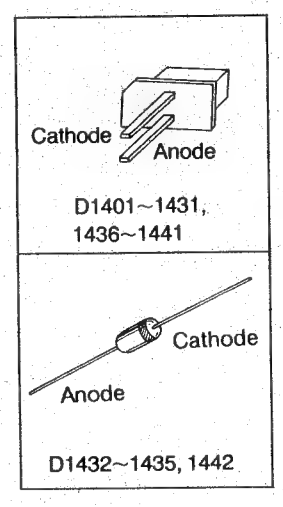
SCH

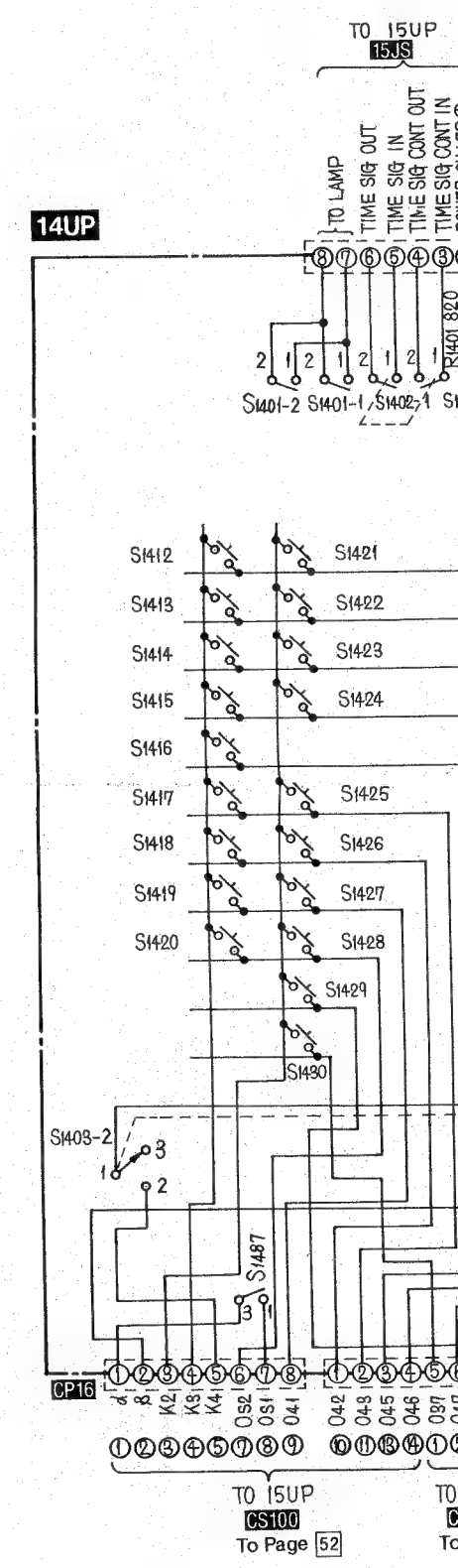
Notes:

1. S1401: Light switch in "OFF" position.
2. S1402-1, S1402-2: Time signal switch.
3. S1403-1, S1403-2: Program selector switch in "Manual" position.
4. S1404-1, S1404-2: Tuning lock switch.
5. S1405-1, S1405-2: AM band width narrow switch.
6. S1406-1, S1406-2: AM band width MED switch.
7. S1407: AM band width wide switch.
8. S1408-1, S1408-2: ANL switch.
9. S1409: Tweeter switch.
10. S1410-1, S1410-2: Signal/Battery switch in "Battery" position.
11. S1411-1, 1411-2: Loudness switch.
12. S1412: HR./MO. up switch.
13. S1413: HR./MO. down switch.
14. S1414: MIN./DATE up switch.
15. S1415: MIN./DATE down switch.
16. S1416: Channel up switch.
17. S1417: Channel down switch.
18. S1418: 12/24 HR. switch.
19. S1419: Sleep switch.
20. S1420: Power switch.
21. S1421: Day reciprocal switch.
22. S1422: Day up switch.
23. S1423: Day Memory switch.
24. S1424: Program review switch.
25. S1425: ON/OFF time switch.
26. S1426: Program CLR switch.
27. S1427: Time display switch.
28. S1428: Dual time switch.
29. S1429: MO./DATE display switch.
30. S1430: One time switch.
31. S1431: Direct touch tuning 15.3 MHz switch.
32. S1432: Direct touch tuning 17.8 MHz switch.
33. S1433: Direct touch tuning 21.2 MHz switch.
34. S1434: Direct touch tuning 21.6 MHz switch.
35. S1435: Direct touch tuning 25.9 MHz switch.
36. S1436: Direct touch tuning 28.5 MHz switch.
37. S1437: Direct touch tuning 95 MHz switch.
38. S1438: Direct touch tuning 101 MHz switch.
39. S1439: Scan/Stop switch.
40. S1440: Frequency step AM 1/5 kHz switch.
41. S1441: Frequency step AM 100/500 Hz switch.
42. S1442: Frequency step USB/CW 100/500 Hz switch.
43. S1143: Frequency step LSB/CW 100/500 Hz switch.
44. S1444: Memory switch.
45. S1445: Direct touch tuning 0.2 MHz switch.
46. S1446: Direct touch tuning 0.8 MHz switch.
47. S1447: Direct touch tuning 1.3 MHz switch.
48. S1448: Direct touch tuning 1.9 MHz switch.
49. S1449: Direct touch tuning 2.4 MHz switch.
50. S1450: Direct touch tuning 3.3 MHz switch.
51. S1451: Direct touch tuning 3.5 MHz switch.
52. S1452: Direct touch tuning 4.0 MHz switch.
53. S1453: Direct touch tuning 4.9 MHz switch.
54. S1454: Direct touch tuning 6.1 MHz switch.
55. S1455: Direct touch tuning 7.1 MHz switch.
56. S1456: Direct touch tuning 9.6 MHz switch.
57. S1457: Direct touch tuning 11.8 MHz switch.
58. S1458: Direct touch tuning 14.2 MHz switch.
59. S1459: Preset tuning CH1 switch.
60. S1460: Preset tuning CH2 switch.
61. S1461: Preset tuning CH3 switch.
62. S1462: Preset tuning CH4 switch.
63. S1463: Preset tuning CH5 switch.
64. S1464: Preset tuning CH6 switch.
65. S1465: Preset tuning CH7 switch.
66. S1466: Preset tuning CH8 switch.
67. S1467: Preset tuning CH9 switch.
68. S1468: Preset tuning CH10 switch.
69. S1469: Preset tuning CH11 switch.
70. S1470: Preset tuning CH12 switch.
71. S1471: Preset tuning CH13 switch.
72. S1472: Preset tuning CH14 switch.
73. S1473: Preset tuning CH15 switch.
74. S1474: Direct-Access tuning 0 switch.
75. S1475: Direct-Access tuning 1 switch.
76. S1476: Direct-Access tuning 2 switch.
77. S1477: Direct-Access tuning 3 switch.
78. S1478: Direct-Access tuning 4 switch.
79. S1479: Direct-Access tuning 5 switch.
80. S1480: Direct-Access tuning 6 switch.
81. S1481: Direct-Access tuning 7 switch.
82. S1482: Direct-Access tuning 8 switch.
83. S1483: Direct-Access tuning 9 switch.
84. S1484: Direct-Access tuning ● switch.
85. S1485: Direct-Access tuning SET switch.
86. S1486: Direct-Access tuning Frequency switch.
87. S1487: Clock adjust switch.
88. VR1401 . . . Gain control, VR1402 . . . Bass control, VR1403 . . . Treble control, VR1404 . . . Volume control.

Bemerkungen:

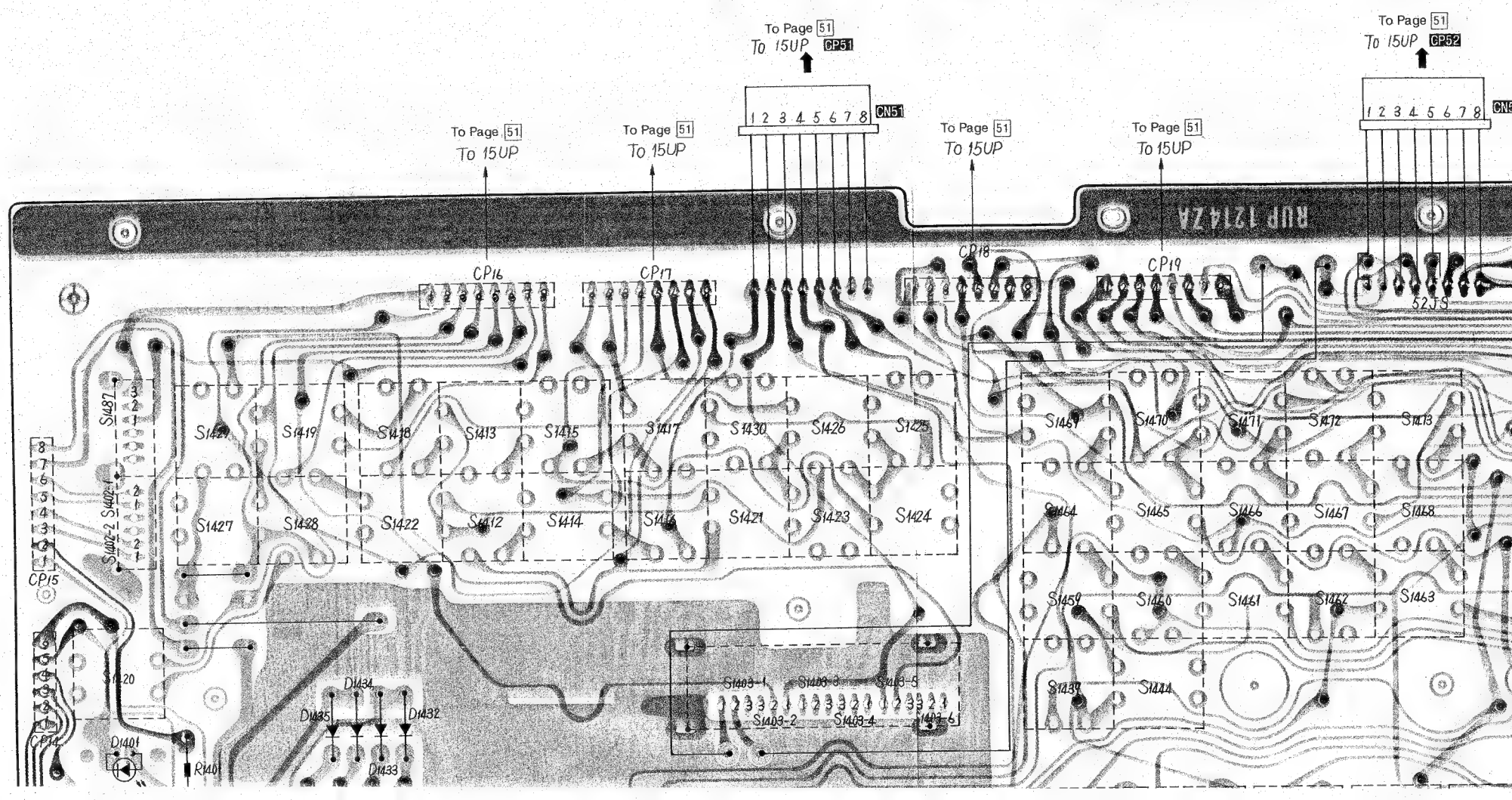
1. S1401: Lichtschalter auf „AUS".
2. S1402-1, S1402-2: Zeitsignal-Schalter.
3. S1403-1, S1403-2: Betriebsartenschalter auf „manuell".
4. S1404-1, S1404-2: Scharfabstimmschalter.
5. S1405-1, S1405-2: AM-Bandbreitenschalter NARROW.
6. S1406-1, S1406-2: AM-Bandbreitenschalter MED.
7. S1407: AM-Bandbreitenschalter WIDE.
8. S1408-1, S1408-2: Geräuschunterdrückungsschalter.
9. S1409: Hochtönerschalter.
10. S1410-1, S1410-2: Signalstärke-/Batteriekontrollscalter auf „Batteriekontrolle".
11. S1411-1, S1411-2: Frequenzgangkorrekturschalter.
12. S1412: Stunden/Monat-Taste UP.
13. S1413: Stunden/Monat-Taste DOWN.
14. S1414: Minuten/Datum-Taste UP.
15. S1415: Minuten/Datum-Taste DOWN.
16. S1416: Stationsnummer-Taste UP.
17. S1417: Stationsnummer-Taste DOWN.
18. S1418: 12/24-Stundenzyklus-Schalter.
19. S1419: Abschaltautomatik-Schalter („Sleep").
20. S1420: Netzschalter.
21. S1421: Tagesumkehrschalter.
22. S1422: Wochentag-Taste UP.
23. S1423: Tagsprogrammierschalter.
24. S1424: Programmkontrollschalter.
25. S1425: Beginnzeit/Endzeit-Umschalter.
26. S1426: Löschtaste.
27. S1427: Zeitanzeigenschalter.
28. S1428: Zeitzonen-Umschalter.
29. S1429: Monat/Datum-Anzeigenschalter.
30. S1430: Schalter für einmalige Programmausführung.
31. S1431: Frequenzbandschalter 15,3 MHz.
32. S1432: Frequenzbandschalter 17,8 MHz.
33. S1433: Frequenzbandschalter 21,2 MHz.
34. S1434: Frequenzbandschalter 21,6 MHz.
35. S1435: Frequenzbandschalter 25,9 MHz.
36. S1436: Frequenzbandschalter 28,5 MHz.
37. S1437: Frequenzbandschalter 95 MHz.
38. S1438: Frequenzbandschalter 101 MHz.
39. S1439: Senderabfragetaste.
40. S1440: AM-Frequenzintervallschalter 1/5 kHz.
41. S1441: AM-Frequenzintervallschalter 100/500 Hz.
42. S1442: USB/CW-Frequenzintervallschalter 100/500 Hz.
43. S1443: LSB/CW-Frequenzintervallschalter 100/500 Hz.
44. S1444: Speichertaste.
45. S1445: Frequenzbandschalter 0,2 MHz.
46. S1446: Frequenzbandschalter 0,8 MHz.
47. S1447: Frequenzbandschalter 1,3 MHz.
48. S1448: Frequenzbandschalter 1,9 MHz.
49. S1449: Frequenzbandschalter 2,4 MHz.
50. S1450: Frequenzbandschalter 3,3 MHz.
51. S1451: Frequenzbandschalter 3,5 MHz.
52. S1452: Frequenzbandschalter 4,0 MHz.
53. S1453: Frequenzbandschalter 4,9 MHz.
54. S1454: Frequenzbandschalter 6,1 MHz.
55. S1455: Frequenzbandschalter 7,1 MHz.
56. S1456: Frequenzbandschalter 9,6 MHz.
57. S1457: Frequenzbandschalter 11,8 MHz.
58. S1458: Frequenzbandschalter 14,2 MHz.
59. S1459: Festsendertaste CH1.
60. S1460: Festsendertaste CH2.
61. S1461: Festsendertaste CH3.
62. S1462: Festsendertaste CH4.
63. S1463: Festsendertaste CH5.
64. S1464: Festsendertaste CH6.
65. S1465: Festsendertaste CH7.
66. S1466: Festsendertaste CH8.
67. S1467: Festsendertaste CH9.
68. S1468: Festsendertaste CH10.
69. S1469: Festsendertaste CH11.
70. S1470: Festsendertaste CH12.
71. S1471: Festsendertaste CH13.
72. S1472: Festsendertaste CH14.
73. S1473: Festsendertaste CH15.
74. S1474: Frequenz-Direktwahltaste 0
75. S1475: Frequenz-Direktwahltaste 1
76. S1476: Frequenz-Direktwahltaste 2
77. S1477: Frequenz-Direktwahltaste 3
78. S1478: Frequenz-Direktwahltaste 4
79. S1479: Frequenz-Direktwahltaste 5
80. S1480: Frequenz-Direktwahltaste 6
81. S1481: Frequenz-Direktwahltaste 7
82. S1482: Frequenz-Direktwahltaste 8
83. S1483: Frequenz-Direktwahltaste 9
84. S1484: Frequenz-Direktwahltaste ●
85. S1485: Frequenz-Direktwahltaste SET.
86. S1486: Frequenz-Direkwahltaste FREQUENCY.
87. S1487: Uhrzeit-Einstellschalter.
88. VR1401 . . . Verstärkungsregler, VR1402 . . . Bass control. VR1403 . . . Treble control, VR1404 . . . Volume control.



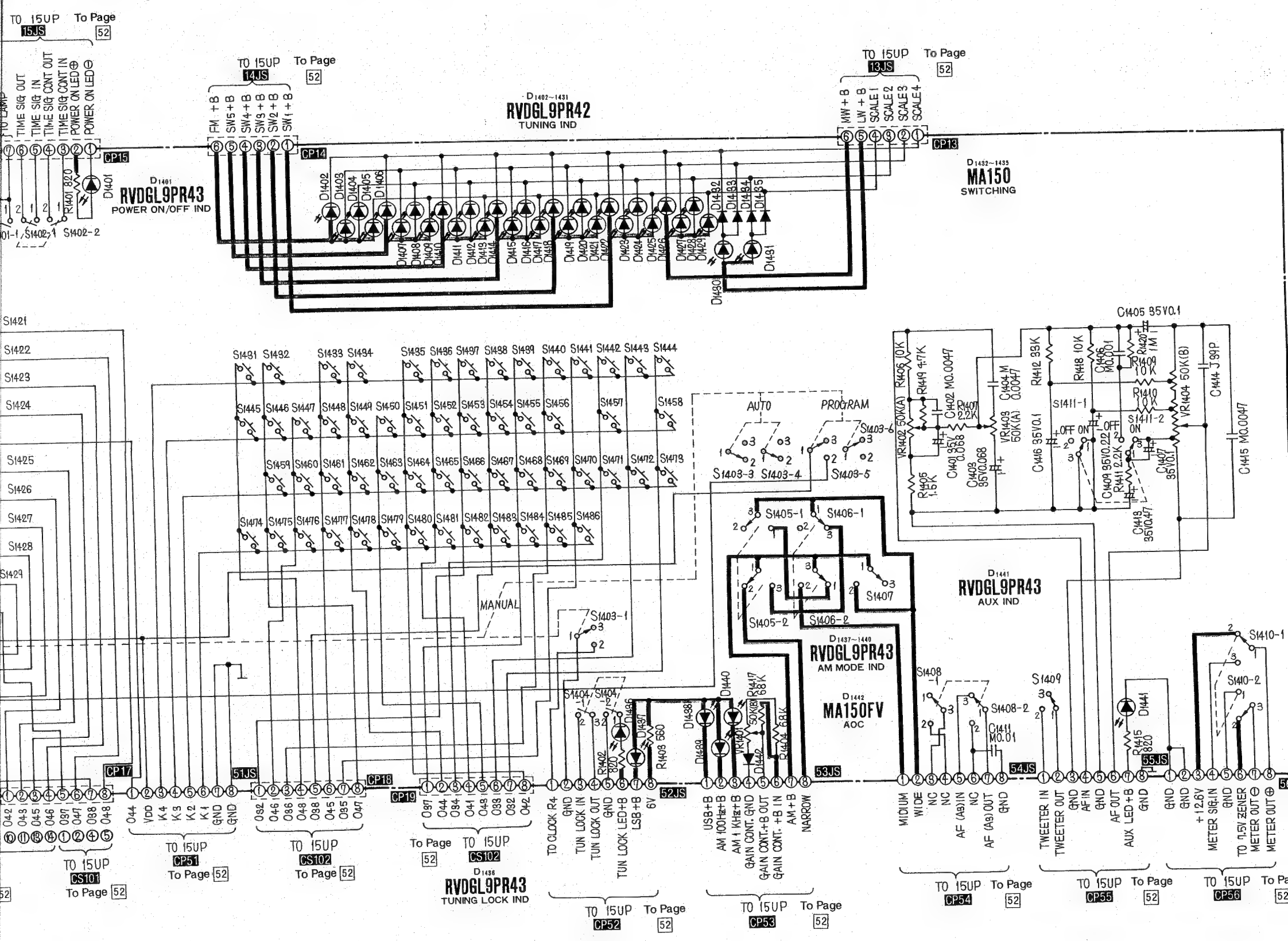


14 UP 14 UP

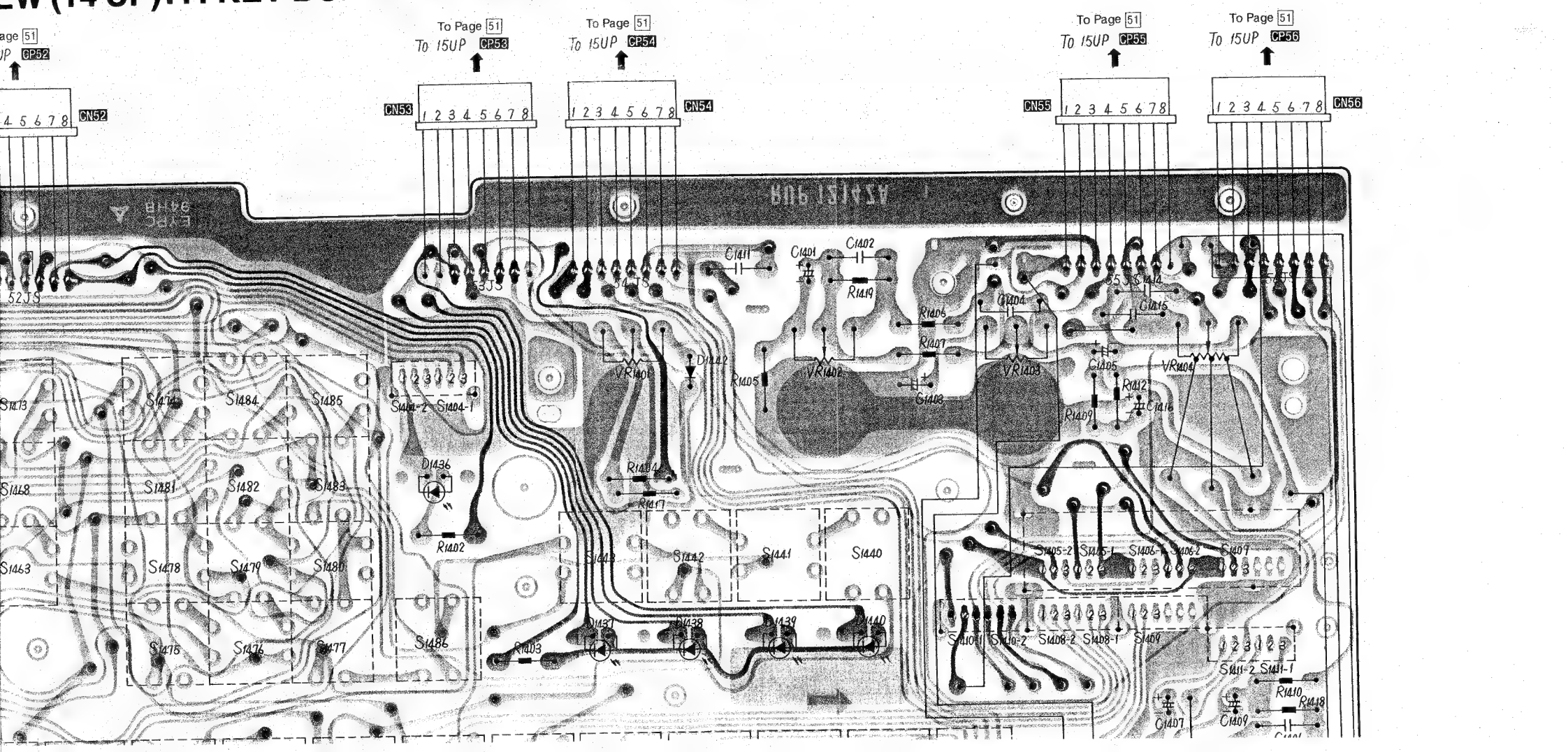
CIRCUIT BOARD WIRING VIEW (14



SCHEMATIC DIAGRAM (14 UP) . . . KEY BOARD CIRCUIT

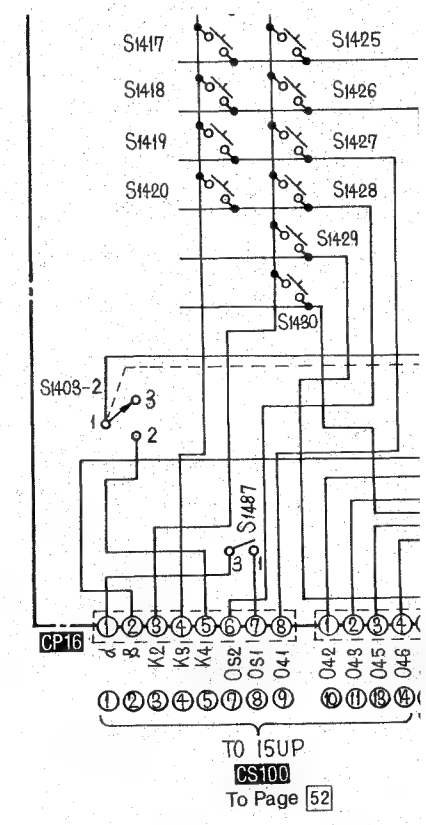


VIEW (14 UP) . . . KEY BOARD CIRCUIT



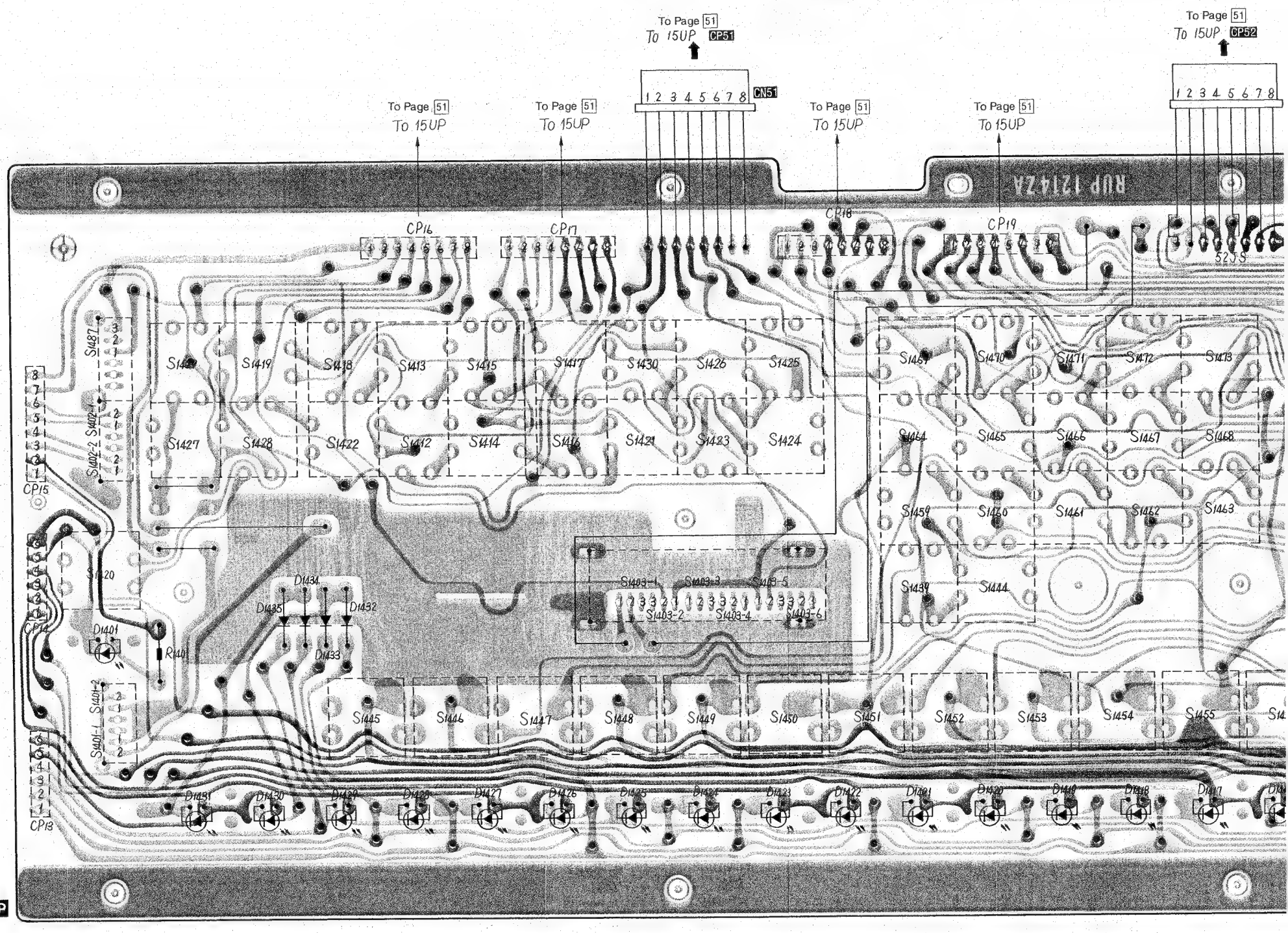
38. S1438: Direct touch tuning 101 MHz switch.
39. S1439: Scan/Stop switch.
40. S1440: Frequency step AM 1/5 kHz switch.
41. S1441: Frequency step AM 100/500 Hz switch.
42. S1442: Frequency step USB/CW 100/500 Hz switch.
43. S1143: Frequency step LSB/CW 100/500 Hz switch.
44. S1444: Memory switch.
45. S1445: Direct touch tuning 0.2 MHz switch.
46. S1446: Direct touch tuning 0.8 MHz switch.
47. S1447: Direct touch tuning 1.3 MHz switch.
48. S1448: Direct touch tuning 1.9 MHz switch.
49. S1449: Direct touch tuning 2.4 MHz switch.
50. S1450: Direct touch tuning 3.3 MHz switch.
51. S1451: Direct touch tuning 3.5 MHz switch.
52. S1452: Direct touch tuning 4.0 MHz switch.
53. S1453: Direct touch tuning 4.9 MHz switch.
54. S1454: Direct touch tuning 6.1 MHz switch.
55. S1455: Direct touch tuning 7.1 MHz switch.
56. S1456: Direct touch tuning 9.6 MHz switch.
57. S1457: Direct touch tuning 11.8 MHz switch.
58. S1458: Direct touch tuning 14.2 MHz switch.
59. S1459: Preset tuning CH1 switch.
60. S1460: Preset tuning CH2 switch.
61. S1461: Preset tuning CH3 switch.
62. S1462: Preset tuning CH4 switch.
63. S1463: Preset tuning CH5 switch.
64. S1464: Preset tuning CH6 switch.
65. S1465: Preset tuning CH7 switch.
66. S1466: Preset tuning CH8 switch.
67. S1467: Preset tuning CH9 switch.
68. S1468: Preset tuning CH10 switch.
69. S1469: Preset tuning CH11 switch.
70. S1470: Preset tuning CH12 switch.
71. S1471: Preset tuning CH13 switch.
72. S1472: Preset tuning CH14 switch.
73. S1473: Preset tuning CH15 switch.
74. S1474: Direct-Access tuning 0 switch.
75. S1475: Direct-Access tuning 1 switch.
76. S1476: Direct-Access tuning 2 switch.
77. S1477: Direct-Access tuning 3 switch.
78. S1478: Direct-Access tuning 4 switch.
79. S1479: Direct-Access tuning 5 switch.
80. S1480: Direct-Access tuning 6 switch.
81. S1481: Direct-Access tuning 7 switch.
82. S1482: Direct-Access tuning 8 switch.
83. S1483: Direct-Access tuning 9 switch.
84. S1484: Direct-Access tuning ● switch.
85. S1485: Direct-Access tuning SET switch.
86. S1486: Direct-Access tuning Frequency switch.
87. S1487: Clock adjust switch.
88. VR1401 . . . Gain control, VR1402 . . . Bass control, VR1403 . . . Treble control, VR1404 . . . Volume control.

38. S1438: Frequenzbandschalter 101 MHz.
39. S1439: Senderabfragetaste.
40. S1440: AM-Frequenzintervallschalter 1/5 kHz.
41. S1441: AM-Frequenzintervallschalter 100/500 Hz.
42. S1442: USB/CW-Frequenzintervallschalter 100/500 Hz.
43. S1443: LSB/CW-Frequenzintervallschalter 100/500 Hz.
44. S1444: Speichertaste.
45. S1445: Frequenzbandschalter 0,2 MHz.
46. S1446: Frequenzbandschalter 0,8 MHz.
47. S1447: Frequenzbandschalter 1,3 MHz.
48. S1448: Frequenzbandschalter 1,9 MHz.
49. S1449: Frequenzbandschalter 2,4 MHz.
50. S1450: Frequenzbandschalter 3,3 MHz.
51. S1451: Frequenzbandschalter 3,5 MHz.
52. S1452: Frequenzbandschalter 4,0 MHz.
53. S1453: Frequenzbandschalter 4,9 MHz.
54. S1454: Frequenzbandschalter 6,1 MHz.
55. S1455: Frequenzbandschalter 7,1 MHz.
56. S1456: Frequenzbandschalter 9,6 MHz.
57. S1457: Frequenzbandschalter 11,8 MHz.
58. S1458: Frequenzbandschalter 14,2 MHz.
59. S1459: Festsendertaste CH1.
60. S1460: Festsendertaste CH2.
61. S1461: Festsendertaste CH3.
62. S1462: Festsendertaste CH4.
63. S1463: Festsendertaste CH5.
64. S1464: Festsendertaste CH6.
65. S1465: Festsendertaste CH7.
66. S1466: Festsendertaste CH8.
67. S1467: Festsendertaste CH9.
68. S1468: Festsendertaste CH10.
69. S1469: Festsendertaste CH11.
70. S1470: Festsendertaste CH12.
71. S1471: Festsendertaste CH13.
72. S1472: Festsendertaste CH14.
73. S1473: Festsendertaste CH15.
74. S1474: Frequenz-Direktwahltaste 0
75. S1475: Frequenz-Direktwahltaste 1
76. S1476: Frequenz-Direktwahltaste 2
77. S1477: Frequenz-Direktwahltaste 3
78. S1478: Frequenz-Direktwahltaste 4
79. S1479: Frequenz-Direktwahltaste 5
80. S1480: Frequenz-Direktwahltaste 6
81. S1481: Frequenz-Direktwahltaste 7
82. S1482: Frequenz-Direktwahltaste 8
83. S1483: Frequenz-Direktwahltaste 9
84. S1484: Frequenz-Direktwahltaste ●
85. S1485: Frequenz-Direktwahltaste SET.
86. S1486: Frequenz-Direkwahltaste FREQUENCY.
87. S1487: Uhrzeit-Einstellschalter.
88. VR1401 . . . Verstärkungsregler, VR1402 . . . Bass control. VR1403 . . . Treble control, VR1404 . . . Volume control.



14 UP 14 UP

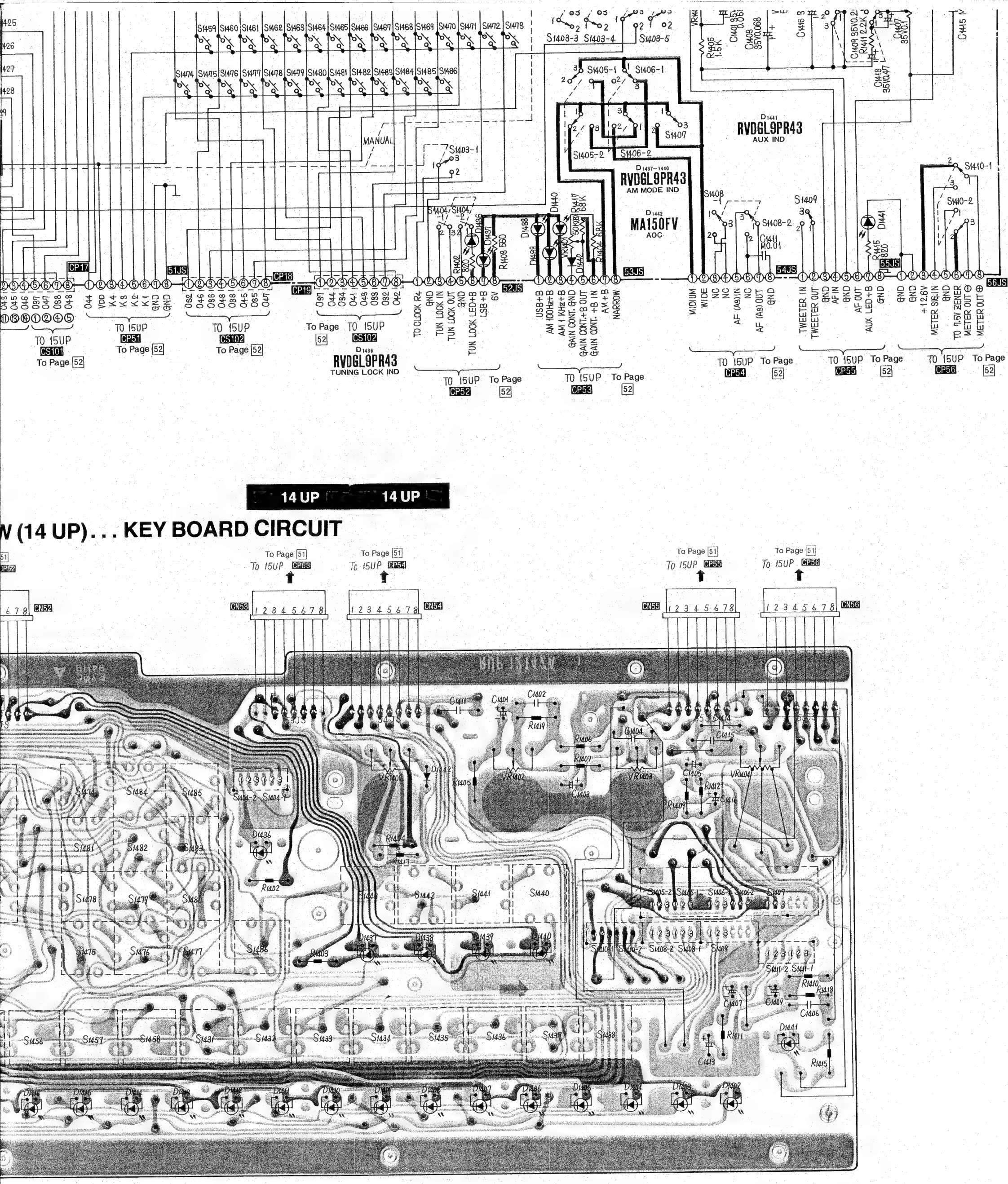
CIRCUIT BOARD WIRING VIEW (1



Remarques:

1. S1401: Commutateur marche/arrêt du l'éclairage en position "Arrêt".
2. S1402-1, S1402-2: Interrupteur de signal horaire.
3. S1403-1~S1403-2: Commutateur du sélecteur de programme en position "Manual" (manuel).
4. S1404-1, S1404-2: Interrupteur de blocage d'accord.
5. S1405-1, S1405-2: Interrupteur de bande AM étroite (Narrow).
6. S1406-1, S1406-2: Interrupteur de bande AM moyenne (MED).
7. S1407 : Interrupteur de bande AM garge (Wide).
8. S1408-1, S1408-2: Commutateur d'écrêteur automatique de bruit (ANL).
9. S1409: Interrupteur de haut-parleur d'aigus (Tweeter).
10. S1410-1, S1410-2: Commutateur Signal/Battery en position "Battery" (piles).
11. S1411-1, S1411-2: Interrupteur de Loudness.
12. S1412: Réglage Mois/Heure: avance.
13. S1413: Réglage Mois/Heure: retour en arrière.
14. S1414: Réglage Minutes/Date: avance.
15. S1415: Réglage Minutes/Date: retour en arrière.
16. S1416: Interrupteur d'avance de l'affichage cu canal.
17. S1417: Interrupteur de recul de l'affichage du canal.
18. S1418: Interrupteur 12/24 heures.
19. S1419: Commutateur "Sommeil".
20. S1420: Marche/arrêt.
21. S1421: Commutateur d'inversion de jour de programmation.
22. S1422: Interrupteur d'avance du jour de programmation (Day UP).
23. S1423: Interrupteur de mémoire journalière.
24. S1424: Interrupteur de contrôle de mémoire de programmation.
25. S1425: Commutateur de programmateur ON/OFF.
26. S1426: Interrupteur d'effacement de mémoire de programmation.
27. S1427: Interrupteur d'affichage Mois/Date.
28. S1428: Interrupteur d'affichage de l'heure sur un autre fuseau horaire.
29. S1429: Interrupteur d'affichage de l'heure.
30. S1430: Commutateur de programmation unique.
31. S1431: Touche de syntonisation automatique sur 15,3 MHz.
32. S1432: Touche de syntonisation automatique sur 17,8 MHz.
33. S1433: Touche de syntonisation automatique sur 21,2 MHz.
34. S1434: Touche de syntonisation automatique sur 21,6 MHz.
35. S1435: Touche de syntonisation automatique sur 25,9 MHz.
36. S1436: Touche de syntonisation automatique sur 28,5 MHz.
37. S1437: Touche de syntonisation automatique sur 95 MHz.
38. S1438: Touche de syntonisation automatique sur 101 MHz.
39. S1439: Interrupteur de lecture de mémoire et arrêt sur mémoire.
40. S1440: Interrupteur de fréquence AM pas à pas 1/5 kHz.
41. S1441: Interupteur de fréquence AM pas à pas 100/500 Hz.
42. S1442: Interrupteur de fréquence USB/CW pas à pas 100/500 Hz.
43. S1443: Interrupteur de fréquence LSB/CW pas à pas 100/500 Hz.
44. S1444: Interrupteur de mémoire.
45. S1445: Touche de syntonisation automatique sur 0,2 MHz.
46. S1446: Touche de syntonisation automatique sur 0,8 MHz.
47. S1447: Touche de syntonisation automatique sur 1,3 MHz.
48. S1448: Touche de syntonisation automatique sur 1,9 MHz.
49. S1449: Touche de syntonisation automatique sur 2,4 MHz.

W (14 UP)... KEY BOARD CIRCUIT



50. S1450: Touche de syntonisation automatique sur 3,3 MHz.
51. S1451: Touche de syntonisation automatique sur 3,5 MHz.
52. S1452: Touche de syntonisation automatique sur 4,0 MHz.
53. S1453: Touche de syntonisation automatique sur 4,9 MHz.
54. S1454: Touche de syntonisation automatique sur 6,1 MHz.
55. S1455: Touche de syntonisation automatique sur 7,1 MHz.
56. S1456: Touche de syntonisation automatique sur 9,6 MHz.
57. S1457: Touche de syntonisation automatique sur 11,8 MHz.
58. S1458: Touche de syntonisation automatique sur 14,2 MHz.
59. S1459: Commutateur de présélection de syntonisation du canal 1.
60. S1460: Commutateur de présélection de syntonisation du canal 2.
61. S1461: Commutateur de présélection de syntonisation du canal 3.
62. S1462: Commutateur de présélection de syntonisation du canal 4.
63. S1463: Commutateur de présélection de syntonisation du canal 5.
64. S1464: Commutateur de présélection de syntonisation du canal 6.
65. S1465: Commutateur de présélection de syntonisation du canal 7.
66. S1466: Commutateur de présélection de syntonisation du canal 8.
67. S1467: Commutateur de présélection de syntonisation du canal 9.
68. S1468: Commutateur de présélection de syntonisation du canal 10.
69. S1469: Commutateur de présélection de syntonisation du canal 11.
70. S1470: Commutateur de présélection de syntonisation du canal 12.
71. S1471: Commutateur de présélection de syntonisation du canal 13.
72. S1472: Commutateur de présélection de syntonisation du canal 14.
73. S1473: Commutateur de présélection de syntonisation du canal 15.
74. S1474: Touche de syntonisation directe 0.
75. S1475: Touche de syntonisation directe 1.
76. S1476: Touche de syntonisation directe 2.
77. S1477: Touche de syntonisation directe 3.
78. S1478: Touche de syntonisation directe 4.
79. S1479: Touche de syntonisation directe 5.
80. S1480: Touche de syntonisation directe 6.
81. S1481: Touche de syntonisation directe 7.
82. S1482: Touche de syntonisation directe 8.
83. S1483: Touche de syntonisation directe 9.
84. S1484: Touche de syntonisation directe ●.
85. S1485: Touche de fin de syntonisation directe.
86. S1486: Touche de début de syntonisation directe.
87. S1487: Interrupteur de réglage de l'horloge.
88. VR1401 ... Contrôle de gain, VR1402 ... Bass control, VR1403 ... Treble control, VR1404 ... Volume control.

CIRCUIT BOARD WIRING VIEW (12 UPa, b, c) . . . POWER SUPPLY, BACK UP, TIMER OUT, CONNECTO

Q1207

	AC	DC
C	14.9V	0.4V
B	14.3V	0V
E	15V	0.4V

Q1205

	AC	DC
C	0.1V	0V
B	0.7V	0.6V
E	0V	0V

Q1208

	AC	DC
C	0.1V	0V
B	0.7V	0.6V
E	0V	0V

Q1206

	AC	DC
C	14.2V	16.3V
B	20.7V	15.7V
E	21.3V	16.5V

Q1210

	AC	DCC
C	21.3V	16.5V
B	20.9V	15.7V
E	21.6V	16.5V

Q1209

	AC	DC
C	21.3V	16.5V
B	21.6V	16.5V
E	22.2V	17.2V

Q1203

	AC	DC
C	20.6V	15.8V
B	12.6V	12.4V
E	12V	11.8V

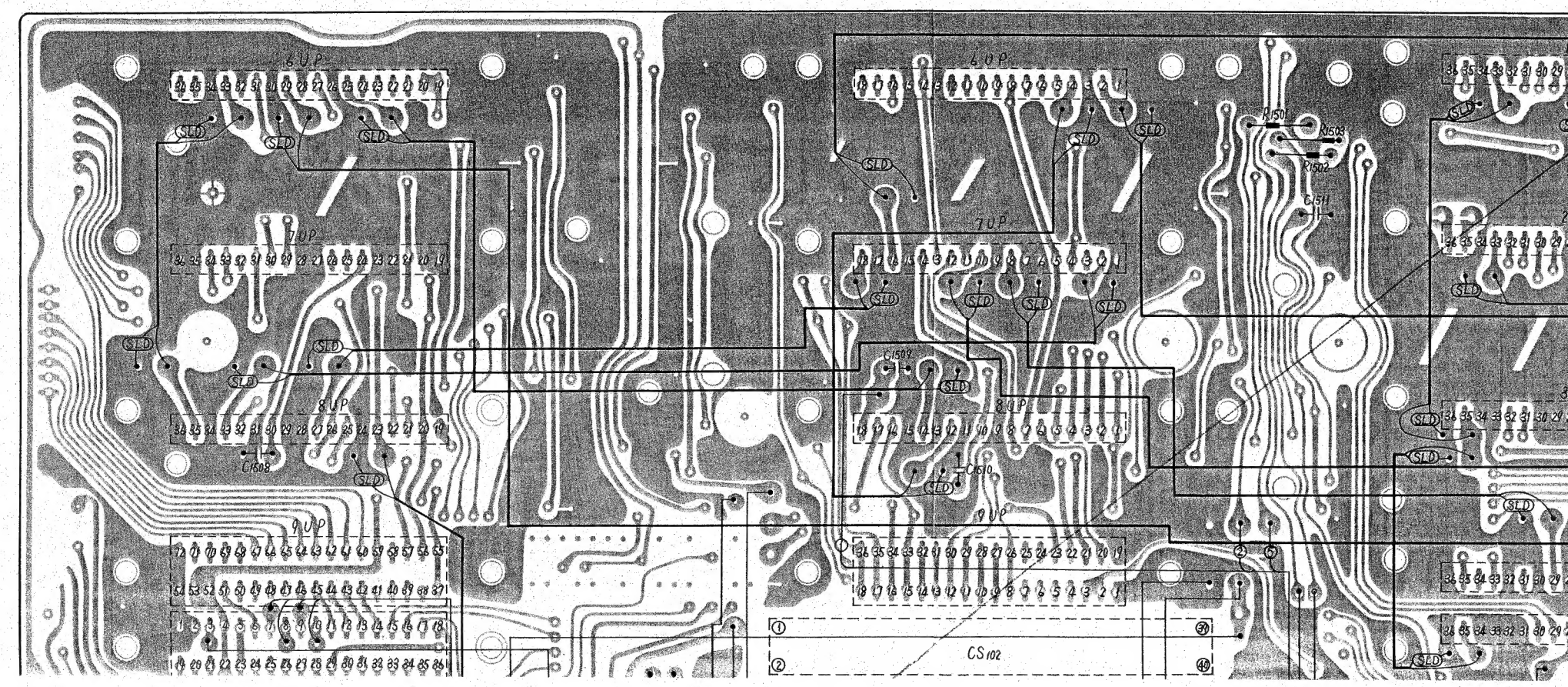
Q1202

	AC	DC
C	12V	11.8V
B	20.6V	15.8V
E	21.2V	16.4V

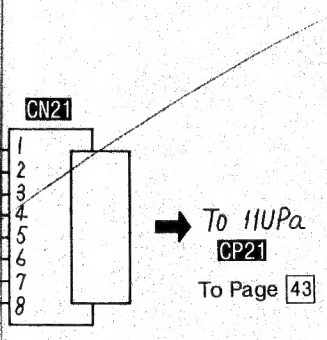
Q1204

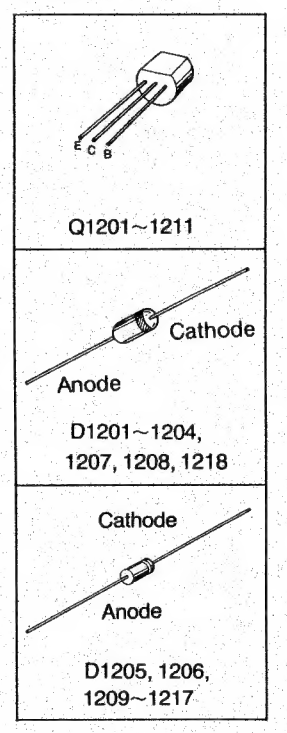
	AC	DC
C	31V	0V
B	30.3V	0V
E	31.1V	0.4V

RUP1212ZB a
EAMG3 94V-1
12UPa
CN21
CN47
RL
FUSE
T1.6A
T1A
T0.5A
ORG
ORG
BLU
BLU
BRN
BRN
BRN
WHT
RED
BLU
BRN
ORG
BLU
T1
POWER TRANSFORMER
VOLTAGE SELECTOR SWITCH
⊕ Voltage Line
AC/DC JACK
12UPc
12UPb
CP46
CP47
CN46
BACK UP BATTERIES SUM-3 (3V)
MAIN BATTERIES SUM-1 (18V)
To 11UPa
To Page 43



ECTOR & EXT DC IN CIRCUIT



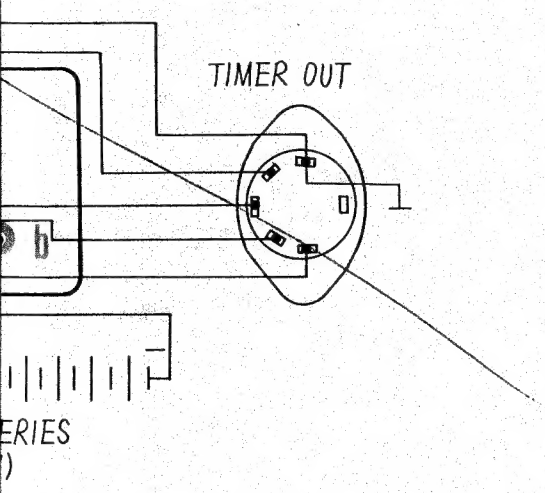


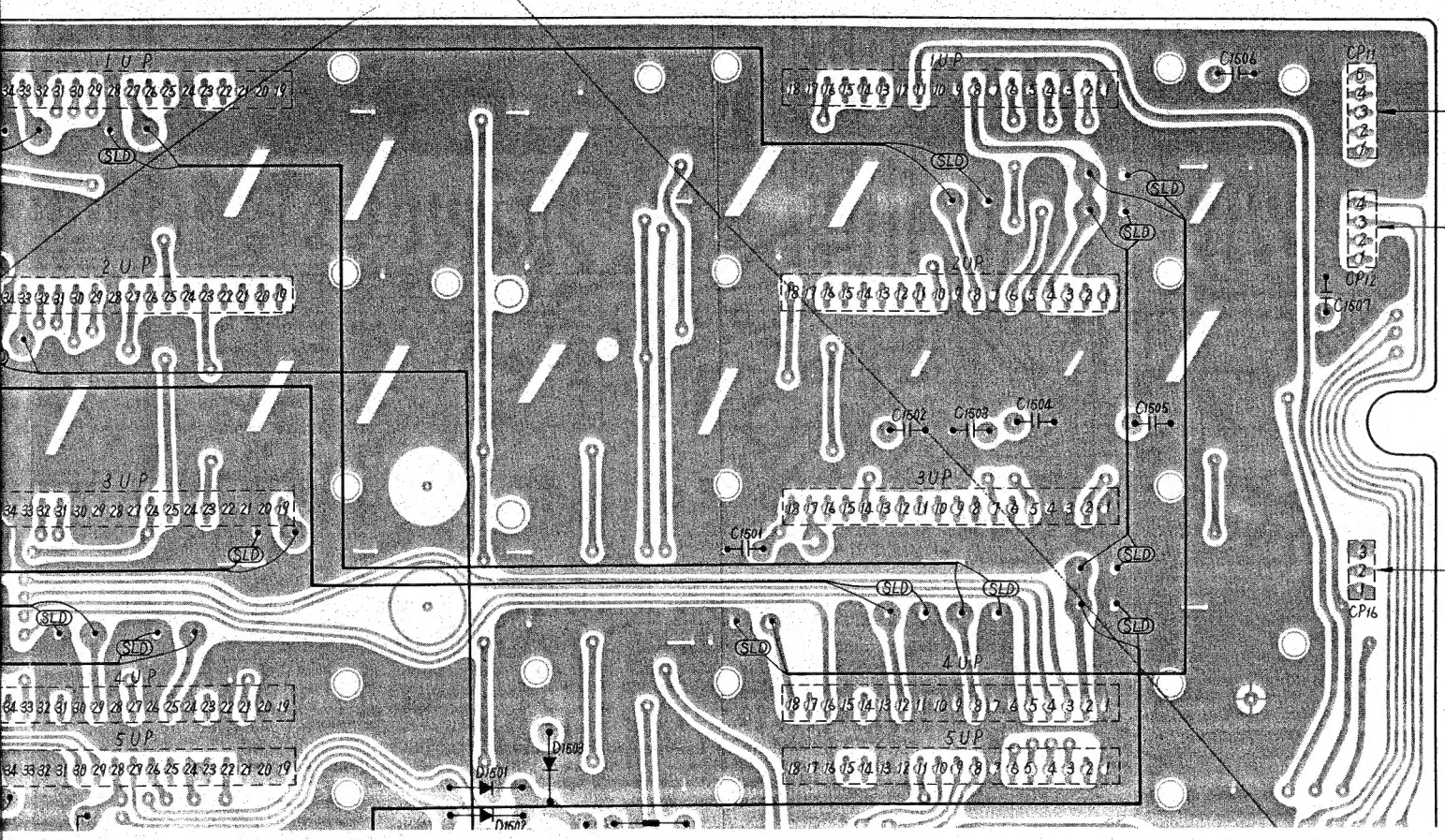
Q1201

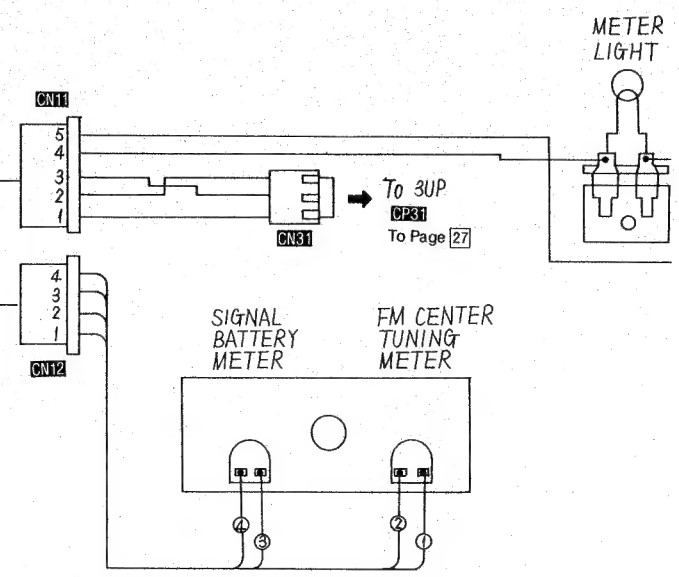
	AC	DC
C	3V	2.9V
B	3.7V	3.6V
E	3V	2.9V

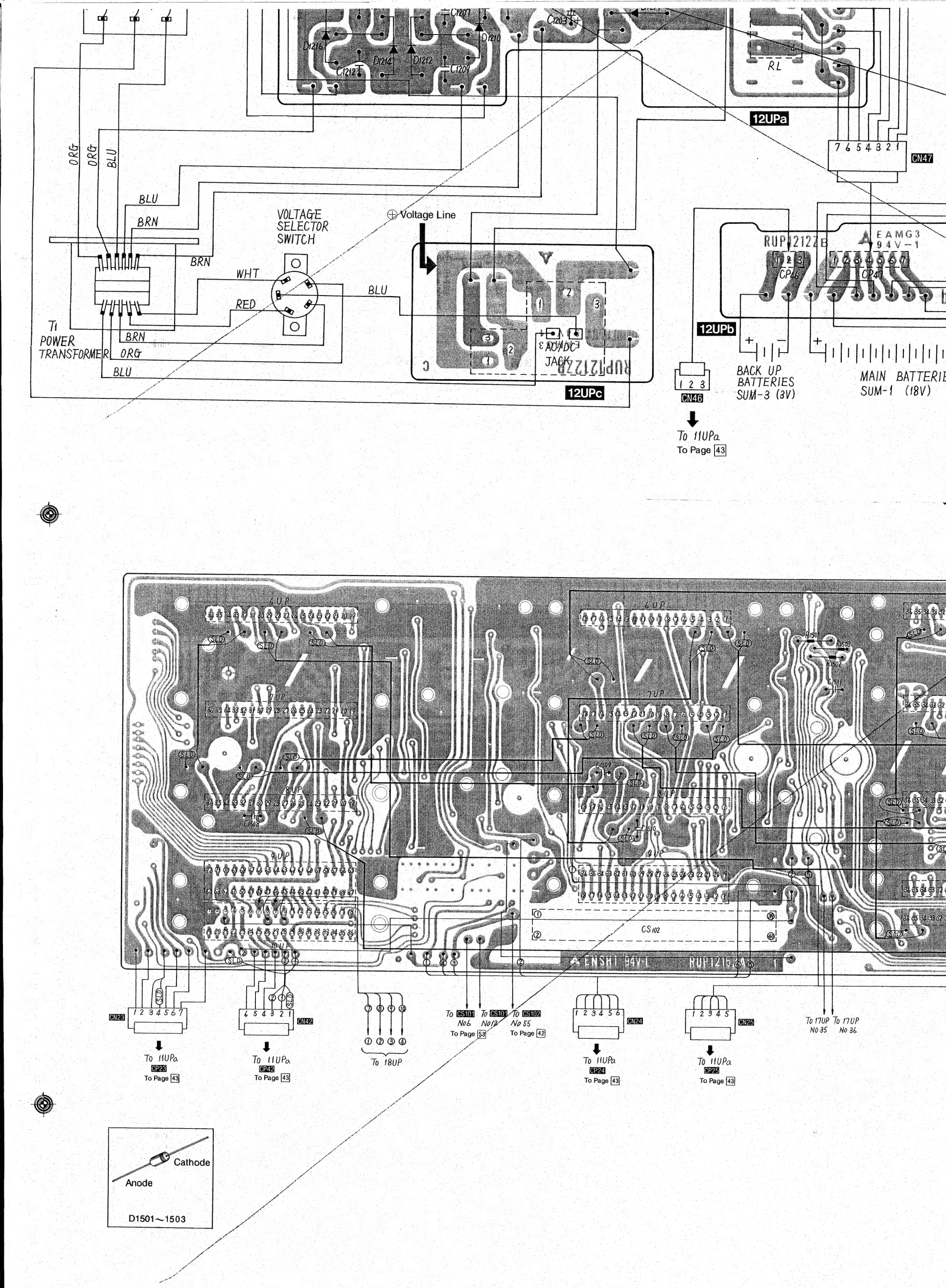
Q1211

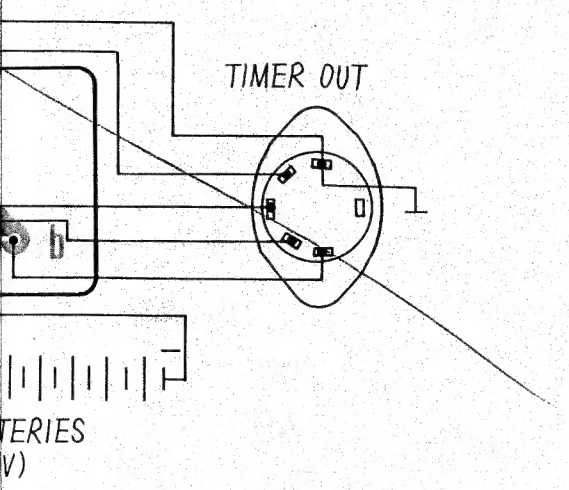
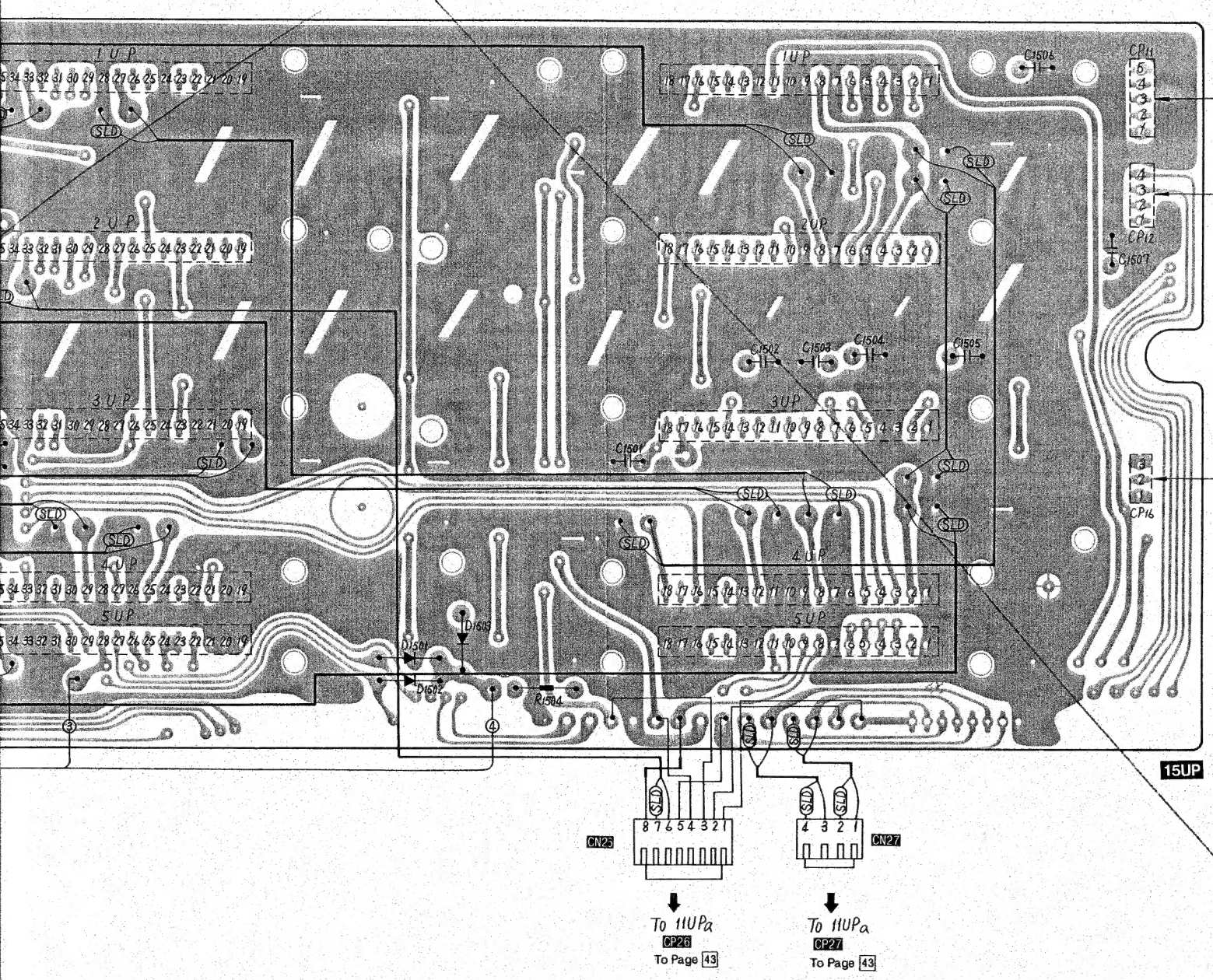
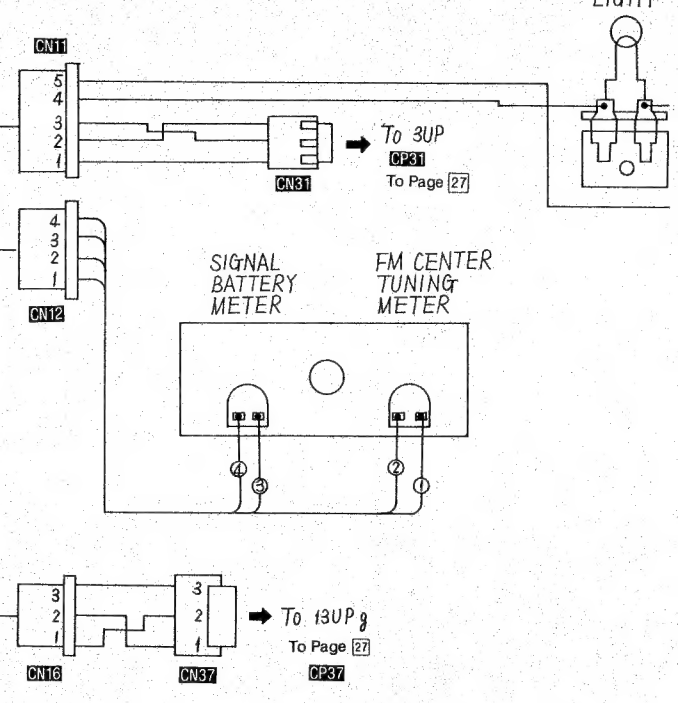
	AC	DC
C	0.1V	0V
B	0.7V	0.7V
E	0V	0V








12UPa
12UPb
12UPc
RL
CN47
CN46
CN23
CN42
CN24
CN25
CP46
CP47
CP23
CP42
CP24
CP25
VOLTAGE SELECTOR SWITCH
Voltage Line
T1 POWER TRANSFORMER
AC/DC JACK
BACK UP BATTERIES SUM-3 (3V)
MAIN BATTERIES SUM-1 (18V)
ORG
BLU
BRN
WHT
RED
To 11UPa
To Page 43
To 18UP
To CS101 No6
To Page 53
To CS101 No12
To CS102 No 55
To Page 42
To 17UP No 35
To 17UP No 36
CS102
Cathode
Anode
D1501~1503

Q1211

	AC	DC
C	0.1V	0V
B	0.7V	0.7V
E	0V	0V